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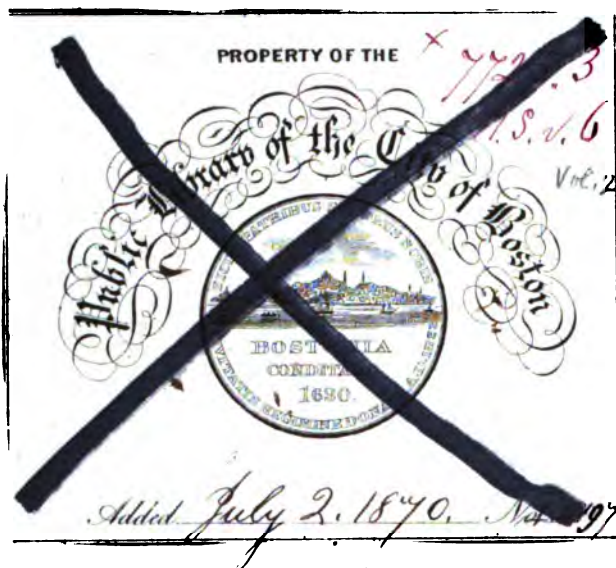
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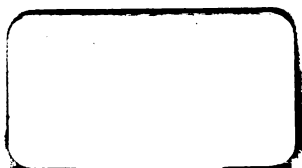
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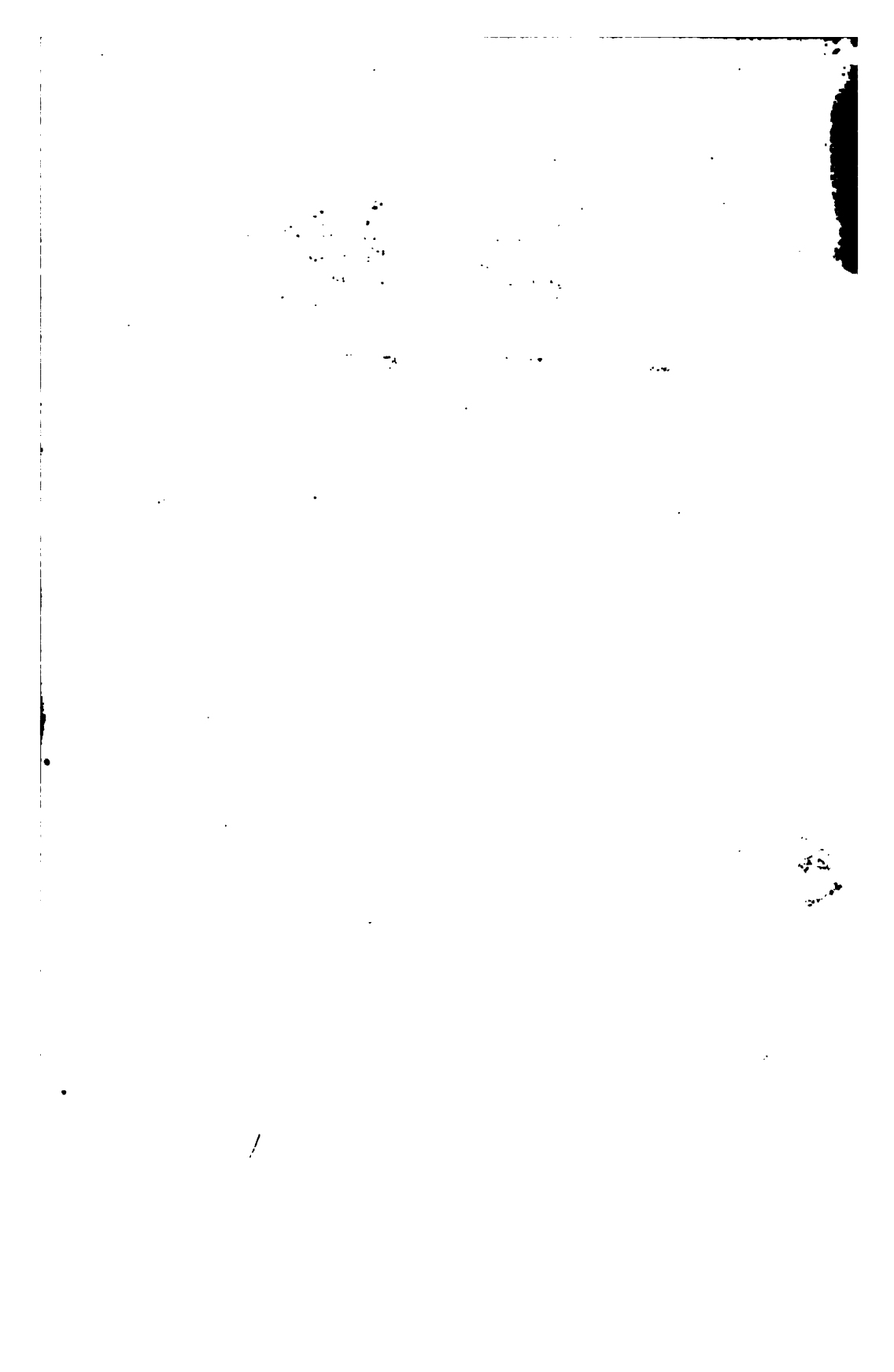
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THE  
SAINT LOUIS  
MEDICAL AND SURGICAL  
JOURNAL.

EDITED, IN CONJUNCTION WITH

M. L. LINTON, M.D.,

Professor of the Principles and Practice of Medicine in the St. Louis Medical College,

BY

G. BAUMGARTEN, M.D.

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"Rationalem puto medicinam esse debere."—CÆLUS.

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JANUARY 10. 1869.

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Original Communications.

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*A CASE OF PLASTIC BRONCHITIS.*

Communicated by G. BAUMGARTEN, M.D., St. Louis.

I lay before the readers of the Journal the representation of a rare specimen of fibrinous casts of the bronchi in a state of perfection very seldom met with. For the specimen, as well as for a brief verbal account of the case, I am indebted to Dr. PH. WEIGEL of this city, to whom I here express my thanks.

The case occurred a number of years ago, and was seen by several physicians of this city. A robust man, in middle life, potator, of good constitution, resident of Illinois, had been suffering from the affection for the relief of which he applied to Dr. W., for about six months. His chief symptom and cause of complaint was the frequent expectoration of the fibrinous bronchial casts in question, which was effected by violent exertions in a fit of the most intense dyspnœa, with livid face and perspiration; relief however immediately followed the discharge of the sputum, and there was no dyspnœa in the intervals. At the time Dr.

W. first saw the patient, these seizures of cough and dyspnœa leading to the expulsion of a surprising mass of fibrine were frequent, often occurring more than once in an hour; and the number of specimens presented to me, more than a dozen larger or smaller arborescent masses (which completely fill an ordinary quinine bottle), are said to have been expelled in one day. The physical exploration of the chest gave negative results. Fever was absent, and the general health suffered but little, the patient being about; after a time, emaciation took place, which was attributed however to a temporary withdrawal of the alcoholic stimulus and stricter diet.

The disease improved slowly under various plans of treatment, the size of the casts and the frequency of the dyspnoic paroxysms diminished considerably; the patient finally left the city after many months of treatment, benefited, but not entirely relieved. According to later information, the case must have lasted not much less than two years, but ultimately got well.

The accompanying faithful representation of one of the completest specimens in my possession, drawn from nature by Mr. HERMANN WIEGAND, to whom I here acknowledge my indebtedness, will serve the reader to form a more distinct idea than I can hope to convey by description. The largest casts (somewhat shrunk by preservation in alcohol for years) exceed four inches in length, and have a short stem about one-third of an inch thick, more or less. This divides into three or four primary limbs, which go on subdividing into branches and lastly into very thin filaments. Some of the filaments terminate in a bulbous extremity, and many of them have a spiral twist. These ultimate filaments are all solid. The intermediate branches are hollow, but not uniformly cylindrical; they are marked by transverse constrictions, and some of them have slight bladder-like expansions. The stem and the first branches given off from it are composed of several concentric layers of membranes, or rather tubes.

These branching masses were nearly white, reacted against chemical tests like proteine bodies, and under the microscope revealed the morphological characters of coagulated fibrine.



Fig. 1. (Natural size.)

The researches into the literature of the subject, to which this extraordinary case prompted me, surprised me no less than the first sight of the specimen. All authors agree that the disease is exceedingly rare; yet accounts of no less than 58 cases are recorded.\* The first drawing of a cast

\* BIERMER, Kkh. d. Bronchien u. d. Lungenparenchyms, in Virchow's Hdb. d. spec. Path. u. Ther. V. 1., pp. 714 *et seqq.*, 1867, gives a complete abstract on the literature of "Bronchitis crouposa," and a systematic monograph of the disease.

has been published, it would seem, by TULPIUS (*Observ. med. libri IV, Amstelodami, 1641*), and is reproduced by BIERMER\*, who adds one of his own observation.

The cases in which expectoration of fibrinous coagula formed in the bronchi has been observed are acute and chronic. The acute cases are rarely if ever confined to the bronchi, but are complicated with either pneumonia, or tracheal and laryngeal croup; and the severer ones have all been fatal. From the descriptions which I can gather, they have little in common with the case before us, beside the character of the sputum, which appears not to attain the size we note in chronic cases, such as the one just related. The chronic form of the disease, however, is almost uniformly described in all the reports I have access to (BIERMER, *locis cit.*; THIERFELDER, *Arch. f. phys. Heilk.* XIII. 1854, p. 206; SCHNITZLER, *Wiener Medicinal-Halle*, 1864, No. 44) as presenting the same symptoms as observed in Dr. WEIGEL's case.

The first accurate report of a clear case of chronic bronchial croup is that of CLARKE in the *Philos. Transactions*, vol. 19, accompanied by a drawing. JOHN HUNTER, in his work *On the Nature of the Blood*, also relates and illustrates a case. It would seem that CHEYNE, reporting a case in the fourth vol. of the *Edinburgh Med. and Surg. Journal*, 1808, was the first who properly appreciated the nature of the expectorated coagula, which before him had been known as "bronchial polypi." For a more complete account of the literature of the subject, we refer to BIERMER, *l. c.* WALSHE, in his *Diseases of the Lungs*, treats briefly of the disease†. The wood-cuts which illustrate SCHNITZLER's reports are the best I have seen, or I should say

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\* BIERMER. *Lehre vom Auswurf*, Würzburg. 1855.

† Dr. CLYMER, in his preface to the second Amer. edition of AITKEN's *Science and Pract. of Med.*, states that he has introduced the subject of Plastic Bronchitis; this would appear in the second volume, which has not yet issued from the press. A brief account may also be found in FLINT's *Princ. and Pract. of Med.*, 3d ed., Phil., 1868, p. 210.

those most closely approximating the appearances in our case; and the account of the phenomena of the disease, and the very faithful description of the pathological specimens, which THIERFELDER gives, in commenting on the case observed at the Medical Clinic of Leipzig, are in entire accord with what I gathered from Dr. WEIGEL's recital, which I fear I have but ill succeeded in repeating.

November, 1868.

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TETANUS.

By H. Z. GILL, M.D., St. Louis.

Tetanus, whether regarded as a genus having species, or a species having varieties, is an affection manifesting itself in spasm of a few, many, or nearly all the voluntary muscles, and has always been viewed as among the most fatal of the affections to which man is subject.

Whether the subject of the attack be an infant of a few days (*trismus nascentium vel neonatorum*), the child of a few years, or an adult, it seems, in the vast majority of cases, terribly defiant of treatment, local or general, mild or severe—of remedies single or combined, in small or in heroic doses. The records do not show a universal mortality, far from it\*; but they do exhibit, under the most varied treatment claiming to be based upon rational views of the nature of the disease, the most discouraging and alarming results. A patient having lock-jaw, following an operation, has been considered irrecoverable, at least beyond the reach of remedies†.

In some countries between the tropics the disease is very common‡, while in others of the same latitude it seems to

\* Dr. Ffirth of S. Carolina *Med. Repos.*, vol. v, N. S., reports a recovery of thirty-two cases of thirty-six treated by him.

† Hippocr. Aphor. 2, sec. 5; and Dr. Mosley, *Trop. Diseases*, p. 481.

‡ J. Peet, Esq., *Ranking's Abst.*, 1854.

be rare\*. But it exists in all countries from the equator to the frigid zone†. Sometimes it follows an injury (tetanus traumaticus), at others it is idiopathic (tetanus idiopathicus); in some cases it is acute and violent, in others chronic and less severe. Cases occur sporadically; at times we hear it spoken of as existing in epidemic form. One case follows the prick of a needle, another a frost bite, a third the most severe contused wound.

We will attempt to study this disease somewhat in detail, following mostly NIEMEYER's order: pathology, causes, symptoms, course, treatment.

**PATHOLOGY.**—Tetanus is a disease affecting the motor nerves and centres primarily. When the nerves and centres of sensation become involved to any appreciable degree, it would seem to be a secondary effect, rather than a first or essential part of the disease. Most frequently, at the commencement of the spasms in traumatic cases, it is not in the muscles supplied by nerves having their origin near the same point as the injured nerve or nerves that we observe the first manifestations of the affection, but it may be, and generally is, in muscles supplied by nerves having their origin (external or visible) high up in the medulla spinalis, or in the medulla oblongata, especially the portio dura of the seventh pair of the cranial nerves of Willis, far from the origin of the nerves supplying the injured part. From this point the irritability of the spinal cord extends, other sets of muscles are thrown into spasm by the least excitement at times, and the force, frequency, and duration increase as the disease continues.

The early manifestations have been regarded as purely reflex. Later, however, the spasms seem to arise without excitement or irritation from the periphery, but are rather the result of a condition functional (we believe structural) of the nervous centre. In other words, that which was at

\* Dr. Bernouli, *Schweiz. Zeitsch. für Heilk.*, III, 127.

† Arctic Explorations, vol. I, pp. 200, 432.



first an irritation and exaltation of function, becomes a pathological structural change, and is, independent of irritation conveyed by nerves from the surface, capable of continuing, prolonging, and strengthening the spasm. Dr. REID\*, in his account of post-mortem examinations of cases dead of tetanus, mentions the increased vascularity of the membranes of the spinal cord, and the effusion of a whitish substance between the arachnoid and pia mater about the 9th and 10th dorsal vertebræ. The substance of the cord had a deeper tinge in the medullary portion.

Mr. ERICHSEN, in his work on surgery, speaks of the irritation extending from the site of injury of a nerve directly to the cord. My friend and teacher, Prof. GROSS, thinks the changes not definite or well known, but does not speak of careful microscopical examinations of the nervous centres. Among the latest and most careful investigations with which I am acquainted, are those of ROKITANSKY and DEMME† on the continent, and J. LOCKHART CLARKE‡ of England. We here insert the conclusions of those authorities as given in the Year-book of the Sydenham Society, 1864:

1. The constant, anatomical character of tetanus appears to be proliferation of the connective tissues; the most striking peculiarity of this lesion is the extent over which it is found.

2. The product is a viscous mass, abounding in nuclei; it remains at this stage of development in both acute and chronic cases, never progressing to the formation of fibres.

3. This change is found almost exclusively in the white medullary substance; the gray matter seems to suffer only secondarily, and then from compression rather than from interstitial deposit.

4. The proliferation is not always followed by corresponding swelling of the white matter; it can often be recognized only by means of the microscope.

5. It was principally found in the medulla oblongata, the crura cerebri, the inferior peduncles of the cerebellum, and in the greater part of the spinal cord.

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\* *Am. Med. Recorder*, vol. 1.

† *Schmidt's Jahrb.*, vol. cxii.

‡ *Lancet*, 1864, II, 261.

6. This lesion of the connective tissue seems to be due to long-continued or repeated congestions.

7. The period at which it occurs probably varies in different cases.

Prof. WAGNER has also noticed these changes. CLARKE speaks of two cases examined, in both of which very similar pathological lesions were found; viz., great congestion of the spinal cord, with granular exudation around the vessels. In one case the dura mater of the spinal cord contained about half an ounce of blood-stained fluid. The vessels of the cord were greatly injected, especially in the lumbar enlargement. The remainder of the cord was more vascular than usual. To the unassisted eye nothing was observable in the interior of unusual character. With the use of the microscope in sections properly prepared\*, lesions of the same general nature were discovered; viz., in some the change was limited to the gray substance, in others it involved the white columns, particularly the posterior or lateral.

Sometimes the lesion was in the form of granular deposit around the vessels; sometimes in the form of globules, masses, or rings. In some places the spots were very small, and might easily have been mistaken by an unpracticed eye for a healthy condition. From the above observations it would appear to us beyond doubt that there are changes of a positive, and by use of proper means in experienced hands, an appreciable character in the morphological condition of the nerve centres referred to, a truth which would be a legitimate inference from the nature of the symptoms; for there is scarcely an exception to the rule, that exalted and prolonged function of a part produces structural change, if beyond a certain point the function is unnatural and pathological.†

In *tetanus nascentium*, the condition of the umbilicus has

\* See Beale. Microscope in Medicine, p. 22.

† Bowmann and Zenker have observed peculiar changes in the tetanic muscles which the latter has called waxy. Niemeyer's Practice. French translation. Note by M. Carmeil.

been examined by several men of the profession, who have had opportunities for observing many cases. The results of their investigations as published do not agree; in fact they disagree widely. CHURCHILL\* says: From fifteen to thirty post-mortem examinations constitute evidence worthy of attention, and then proceeds to give Prof. COLLES' account of the appearances found. The borders of the umbilicus were a little raised, and when they were expanded by means of forceps, the floor was not flat but elevated in the centre by a knob or large papilla. The surface presented the characters of those membranes formed by suppurative inflammation. In some cases the floor of the cavity presented evident marks of ulceration confined to the vicinity of the umbilical vein. A probe could be passed readily through the papilla into the vein. The peritoneum covering the vein and arteries, and in some cases the inflammation, extended along their course in the former to the fissure of the liver, in the latter as far down as the sides of the bladder. The cellular substance around the vessels and urachus was loaded with a yellow watery fluid. The coats of the vessels were much thickened, he says, and in the arteries there was a thick yellow fluid, resembling coagulable lymph. Cutting into the umbilicus from the peritoneum, there was found in the centre a space about half an inch long, occupied by a yellowish substance resembling coagulable lymph, produced by inflammation. This formed the knob or papilla spoken of, and while this varied in extent in different cases, the arteries in every case opened into it, or rather were lost upon it. In every instance, the ends of all these vessels remained open, their canals being in continuity with the soft substance occupying the centre of the umbilicus. So much, in brief, for Prof. COLLES' observations.

In 1819, Dr. LABATT having charge of the lying-in

\* Churchill, on Diseases of Children. 2d Amer. ed., p. 99. Dublin Hosp. Reports, vol. I.

hospital, published a paper\* on the subject; and still later, Dr. BREEN† another, both differing with the above observations. The former states that the peculiarities mentioned by Mr. COLLES as characteristic of the umbilicus in tetanus (trismus), were absent in all the six cases of locked-jaw, and in the other three of the nine examined by him, dead of other diseases, many of the appearances mentioned were present; so that in the six cases of trismus the umbilicus was free from disease. We will not attempt a reconciliation of so great a difference.

Dr. WOOTEN has given the result of his investigations‡. The pathological phenomena observed by him were: general peritonitis, and the portion surrounding the entrance of the navel string in a gangrenous condition; engorgement of the membranes at the base of the brain, and about the medulla oblongata and cervical portion of the spinal cord. The late Prof. BUSCH, of Berlin, speaks of the same condition, and Dr. LEVEY§, of Copenhagen, also states that he found in six cases inflammation, discoloration, and suppuration of the arteries, and in some there was destruction of the coats of these vessels.

From these sources (and the number might be multiplied almost without end, and perhaps without profit) it seems we may conclude that there is irritation of an extremity\*, or of a centre of one or more of the motor nerves, which, with its legitimate consequences, determination, congestion, effusion, and proliferation in the nervous centres, more particularly the centres of motion, the pons, the crura, the medulla oblongata, and medulla spinalis, in their *white portions*.

CAUSES.—This brings us next to the *causes* of, first, *traumatic tetanus*.

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\* *Edinburgh Medical and Surgical Journal*, vol. xv.

† *Dublin Journal*, vol. viii.

‡ Churchill, *loc. cit.*

§ *Brit. and For. Med.-Chir. Review*, vol. x, p. 275.

*Local Causes.*—Among these we find lacerated, punctured, and contused wounds, and probably in this order, as the most frequent injuries to be followed by this malady. Most frequently the injuries are of a complex, or, at least, compound nature. Of the six cases which have occurred recently in this city, four were more or less of a compound character. Injuries of the extremities, the feet or the hands, are frequently followed by tetanus, though the wound may be to all appearance of but trivial character at first. Especially is this the case with punctured wounds, whether produced by a rusty nail\*, a thorn†, a splint‡, or a fish bone§. I find the details of eight well marked cases following very trifling wounds of the foot, of this character, in American journals, and many more might be given. But the question whether an injury of the foot is more likely to produce, or be followed by tetanus, than one of the hand, may be answered by saying: An injury of the same character and extent, subjected to the same exposure and neglect, would, in all probability, be as likely to be followed by tetanus in the one extremity as in the other. That the feet are more exposed to punctured wounds among the poorer classes in warm climates where they go barefoot, one may easily understand. We find many examples of injury of a nerve or inflammation of a nerve in dense tissue, as in periosteum, or beneath a tense aponeurosis, producing extreme pain, and in children in dentition even convulsions. That the compression of the injured nerves in contusions and wounds of extremities, caused by the dense, unyielding nature of the tissues, enters into the causation of the affection, seems to us beyond doubt, and suggests a portion of the treatment which we shall notice hereafter.

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\* Dr. Barker's case, *Med. Repos.*, 1807, spasms of the jaws in 1 hour. and *Med. Repos.*, vol. v, N. S.

† Dr. Brown's case, *Med. Repos.*, 1801.

‡ *Med. Examiner*, 1849.

§ One of Baron Larrey's cases of fish bone in the throat.

A contusion\*, without external injury, may be followed by the disease, the irritation being sufficient to produce all the symptoms and results without any exposure of a wounded surface.† Contused and lacerated wounds of the hands or feet, implicating the bones, are more dangerous in regard to this affection than all others, when exposed to certain conditions. Gun-shot wounds are among the contused and lacerated.

*Climate* has been a question always considered when speaking of the cause or condition under which tetanus appears. A tropical climate is of itself not sufficient to account for its greater prevalence in some countries than in others. Other conditions must be considered, viz., the vicissitudes of temperature and moisture in the atmosphere between day and night, or the exposure of the individual to a sudden and very considerable depression of temperature with, at the same time, an atmosphere loaded with watery vapor dampness. While I have been unable to find any exact tables showing these conditions at the time of the occurrence of any of the cases, I shall append a table of the temperature and dew point for October, during which time four of the cases occurred in this city. In the cases mentioned in Dr. KANE's Arctic Exploration, the temperature was many degrees below zero, Fahr.

Prof. BARDELEBEN has regarded the injury as the predisposing, and the chilling‡ as the determining cause of tetanus. And immediately NIEMEYER proceeds to state in confirmation, that after violent chilling tetanus may appear without a previous wound§. In the case of Dr. BARKER, mentioned above, an attack returned three months after the first, following an injury of the toe by exposure to cold and

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\* Dr. Barker's case, *loc. cit.*

† Dr. Archer's case, *Med. Repos.*, 1806.

‡ Niemeyer's Practice, French translation, vol. II. p. 380.

§ Niemeyer *loc. cit.*

dampness. This case would seem to come under BARDELEBEN'S views; injury, and the consequent irritability, the predisposing, and exposure to cold and dampness the determining cause,—rather than idiopathic or tetanus without previous injury (*sans blessure préalable*). And, we believe, that many of the cases of so-called idiopathic and *rheumatismal* tetanus are dependent upon injuries sustained some time previously, leaving the nerves in an extremely irritable, and perhaps inflamed, condition. We have had the experience of an incised wound of the finger, in which the end was removed squarely with a razor nearly to the bone; the part was very sensitive for years, and a slight blow would cause extreme pain.

Exposure to dampness and cold, it is believed, cause inflammation of the spinal cord. This inflammation may produce tetanic spasms as the same condition from other sources does. These cases are more rare than the traumatic. My friend, Dr. J. M. LEEDE, of this city, tells me of a case which occurred in his practice a year or more since, in which a man, after very vigorous exercise and free perspiration, went into a cold room and remained there some time in his damp clothing. This was followed by chill, spasm, tetanus, and, in a few days, death.

Tetanus of the new-born, or trismus nascentium, we believe to be of the same general nature, both in its pathology and cause, as in the adult. There may be, doubtless there are, shades of difference dependent upon various circumstances of climate, ventilation of the apartment, manner of dressing the umbilicus, or washing and clothing the child. In the November number of the *St. Louis Medical and Surgical Journal*, 1868, there is an extract from the *Medical Gazette*, taken from the *Berlin Monatschrift für Geburtskunde*, in which it appears there were in 1864 and 1865, ninety-nine fatal cases of trismus neonatorum out of three hundred and eighty births, occurring in the practice of one midwife. After a careful examination of all the circumstances, it is stated, "it was finally ascer-

tained that she used unusually-hot water in the first washing of the infant, from 101° to 111° Fahr. When this was rectified the cases ceased." I have been unable to procure the original article, or to ascertain whether autopsies were made or not, or what views are given, if any, as to the manner in which this cause may have acted in producing this disease. The facts as stated should be sufficient caution to prevent the same practice.

*Tetanus from poisoning (tétanos toxique)* may be produced by some of the alkaloids of nux vomica, very similar in its manifestations to the other forms; but according to M. PELLETIER\*, brucine does not produce the tonic spasms of the muscles of the inferior maxillæ and of deglutition.

*Epidemics.*—Dr. JOSEPH CLARKE states, that out of 17,550 infants born alive at the Dublin Lying-in Hospital, 2,944 died of tetanus. As soon however as the ventilation was improved, tetanus almost ceased to occur; at the same time, cases attended at their homes, and *less cleanly*, were not attacked with equal frequency.

After the battles of Bautzen and Dresden†, the wounded being exposed to cold night air, a large number were attacked with tetanus. The case is simply this: a great number with wounds were exposed to a general agent, or *determining cause*, and of that number many were attacked. Evidence of the existence of any epidemic, properly speaking, seems to be absent. The cases of Sir G. BLANE, of which thirty occurred out of eight hundred and ten wounded, of which number seventeen died, and the vast number of infants that die in some southern climates‡, are dependent upon exposure to the vicissitudes of temperature rather than any prevailing and unavoidable influence.

In one of the London hospitals, in 1858, there were nine deaths in two months. The details of these latter cases I

\* *Nouveau dictionnaire de méd. et chirurg. pratique. Art. Brucine.*

† Macleod's Notes; also Gross' System of Surgery.

‡ Rush's Med. Obs. and Inqr., vol. 1, p. 336; and Rank. Abst., 1854.



have been unable to find. In nearly all the so-called epidemics, the cause or occasion has been ascertained and removed, as in the Dublin Lying-in Hospital, and in the cases of the German midwife, above mentioned.

*Incubation.*—Mr. PEET believes that "there is little doubt there exists in tetanus, as in most other diseases, a period of incubation, but that there are no facts to determine the length of time over which this state may extend." When one case may arise within an hour, another thirty days after the injury, we are not warranted in assuming the existence of a period of incubation.

*SYMPTOMS.*—The most prominent feature of the disease is manifested in spasm of a continued or tonic character, generally of the muscles of mastication and deglutition first, then the cervical sets, the erectors of the spine, and the muscles of respiration; though the entire voluntary muscular system may be affected in some cases to an intense degree.

There are usually premonitory symptoms of a local and of a general character. In traumatic cases the site of injury becomes more painful, and if it be an open wound or an amputation, the surface becomes rather dry, and the secretions diminished or arrested. In cases of small punctured wounds, there may be little or nothing in appearance or in sensation to attract special attention. Among the general premonitions are slight fever, inaction of the bowels, pains in the back of the neck, jaws, and throat, such as arise from exposure to a draft of air, or stiffness of the muscles of these parts as in slight attacks of rheumatism.

When the disease has declared itself, the muscles of mastication become permanently rigid, with, however, variations in the degree of rigidity, being more intense during the existence of the paroxysm, and less severe during the remission. The spasms in certain sets may predominate over the antagonizing muscles, viz., the muscles of one side or of the other may be so violent as to curve

the trunk to the corresponding side\*, pleurothotonos; the body may be bent forwards, emprostotonos; when they are nearly balanced and the body is straight and rigid, it has been called orthotonos; but the most frequent is the curvature backwards, by which, in extreme cases, the person is supported on the back of the head and heels, opisthotonos. The contracted muscles remain more or less tense throughout the malady, yet the degree varies with the intensity of the paroxysm, and during the remission they are considerably relaxed. Occasionally, so great is the violence of the contraction, that the muscles become ruptured. The pain at this period at the site of injury may be almost imperceptible, so slight is it, but the muscles, extended to such an extreme degree, become the seat of excruciating pain akin to violent cramp in the calf of the leg. The outlines of the muscles become well defined, especially of the face, and give to the physiognomy a peculiar expression, *risus sardonicus*. The forehead is wrinkled, the brow knit, the sunken eyes are fixed and immovable, the nostrils expanded, the angles of the mouth are drawn outwards, and the rows of teeth, no longer covered by the lips, are clenched against each other. The aspect of such a patient produces at once a feeling of deep sympathy and inexpressible horror. Pain in the præcordia, shooting through to the spine, is one of the most *alarming symptoms*. Many cases, in which this is early felt and strongly marked, die within twenty-four or forty-eight, or indeed a few hours.†

The pulse is in many cases infrequent, not rising above 80 or 90 per minute, though in some it rises as high as 130. (See cases appended.) J. PÆT has remarked, and we think correctly, that the frequency of the pulse is of comparatively little value in determining the severity of the attack, but its condition as an index of the strength is of great importance. The temperature is variable, and may

\* Macleod's Notes, p. 155.

† Niemeyer *loc. cit.*

run as high as 110°, Fahr.\* The skin is often bathed with perspiration. The bowels are usually constipated, in many cases obstinately so. There is desire for food and drink, but from the spasm of the muscles of deglutition, there is frequently inability to swallow either.

Hurried or difficult respiration, as before mentioned, is one of the most alarming symptoms, and generally indicates a fatal termination, not from obstruction in the air passages, but from spasm of the respiratory muscles including the diaphragm, the thorax being as it were grasped in a vice, and the patient dying in a state of asphyxia. The duration of a paroxysm is from ten to fifteen minutes; it may be shorter, it may continue an hour before a remission. The paroxysms become more frequent and of longer duration as the disease advances, or of less frequency and shorter duration as the affection declines. The mental faculties are but little disturbed till towards the fatal termination.

*Date and Duration.*—The date at which an attack occurs after an injury is variable; it may be stated at from four to ten days in traumatic cases; and in infantile cases, about the time the remains of the umbilical cord drop off, certainly within nine days from birth.† In the former variety it may be within an hour or two, or it may be as late as the thirtieth day. It may prove fatal in a few hours, or it may continue some weeks. If it prove fatal, it is so generally within from three to six days after the date of well pronounced symptoms. The mode of death in the rapid and violent cases, is from asphyxia. In the cases longer continued, it is from nervous exhaustion, asthenia, from the frequent, prolonged, and energetic muscular action, without the possibility of the requisite supply of nutrition, and it may be accompanied with extreme emaciation.

*DIAGNOSIS.*—The differential diagnosis between tetanus

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\* Gross *loc. cit.*

† Rank. *Abst.*, 1854.

and inflammation of the spinal cord or its membranes, may be determined by the spasms in the latter not being so well defined or periodical. In the latter, the spasms are accompanied by more fear in proportion to the degree of spasm than we would expect to find in the former affection. In the latter, there is always pain somewhere in the region of the spine, generally pretty high up, and of a fixed character, notably increased by any quick change of posture. Paralysis may also come on early in acute spinal inflammation. From chorea it is distinguished by the periodical alternations of paroxysms and remissions of a somewhat regular character, while in the former there is an irregular, restless jactitation, and a tossing hither and thither of the limbs in an uncertain manner.

From hysteria it is distinguished by the absence of the quivering, tremulous movements of the closed eyelids in that disease. From epilepsy by the absence of unconsciousness. In hydrophobia there seems to be an instinctive *dread of water*, as the name implies, and in that disease there is complete relaxation, at least in the early periods of the attack. From poisoning by strychnia it is known by the absence in the latter of any injury or ailment, and by the sudden invasion of the spasms under these circumstances. In fact, it is only in the beginning of an attack, or in a very mild or questionable case, that the disease would be confounded with any other; yet such a case I have seen occurring long after a gun-shot wound of the thigh, in which the ball remained in. There were at the same place at the time, a number of cases of cerebro-spinal meningitis: that was also taken for such a case.

The PROGNOSIS will depend upon the nature of the cause and the character of the symptoms. If the case be one following a somewhat extensive lacerated and contused

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\*J. Peet's report, *Rank. Abst.*, 1854.

† Churchill, p. 95.

‡ Barclay's Medical Diagnosis.

wound, the chances will be fewer than in one following a punctured wound. If the attack is sudden and violent, and especially if the symptoms of difficult respiration and dysphagia are more marked, the prospects of recovery are greatly diminished compared with the more gradual and milder cases. The vast majority of infantile cases are fatal. Preventive measures, avoiding the exposure of a wound or of the person, in case of an injury, to damp, cold weather or drafts of air should be avoided, and especially so at times of sudden and great alternations of the weather.

The TREATMENT of traumatic tetanus has been as various and the remedies as numerous as the almost innumerable notions conceived of its cause and pathology, and in many cases, it would seem, with little regard to the physiological or therapeutical effect of the remedy administered. If we have made our views clear as to the disease being dependent upon a local or a general cause, or the combined action of the two, we should apply our means to the removal of the cause or causes, primary or secondary. First, the local injury should receive our attention. If the wound has been small and among dense tissues, and especially if sensations of numbness or pains of a neuralgic or shooting character have been experienced in the part or near it, an incision should be made at once sufficiently free to remove all pressure or tension of the part or injured nerve\*. If the injured nerve be found, and is exquisitely sensitive, it would be best to divide it completely, either at the site of injury or at a point nearer the trunk†. After free division of the part, or section of the nerve, or application of the actual cautery‡, which would accomplish the same object, to-wit, the division or destruction of the nerve at the site of injury, though, we think, in a less eligible manner than

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\* Larrey, Macleod's Notes, p. 155, and many others.

† *Med. Repos.*, vol. III, N. S.; also, *Complet Traité pratique des maladies graves*.

‡ Dr. Brown's case, *loc. cit.*, and *Med. Exam.*, 1849.

by incision, yet the consequent inflammation might be advantageous; after this we say emollient poultices should be applied, to bring about, as early as possible, a healthy suppurative action. The part should also be especially protected from cold moisture or draughts of cold air.

In more serious cases of a contused and lacerated character, with fracture of the bones of the hand or foot, it is a pressing question whether the injured member should not be entirely removed, commensurate with the extent of the injury on the first appearance of clearly defined tetanic spasms, rather than take the fearfully few chances of recovery in these cases. I think the procedure perfectly justifiable, if not imperatively demanded\*, notwithstanding what NIEMEYER says of a discouraging nature: "*Cependant les succès obtenus à la suite de ces opérations ne répondaient nullement aux espérances que l'on avait fondées sur elles: aussi en est-on revenu de nos jours.*"

Almost any means indicated by the present knowledge of the nature of the disease would be justified. Whatever is done must be done early and energetically in these violent cases, dependent upon injuries just indicated, else the fatal issue is at hand, and the patient beyond the reach of treatment. If the injury has existed several days before any symptoms appear, and we can trace the disturbance to one or more nerves, I should say divide it or them by all means ("as early and as high up as possible")†, near to or farther from the injury, according to circumstances.

If the solution of continuity be repaired, or nearly so, and upon close examination a supersensitive or irritable spot be found, as in the case given by Prof. GROSS‡, which is a very instructive one, excise it at once. In addition to the emollient poultice, the saturated tinct. of *cimicifuga racemosa* should be applied, as being one of the most

\* Larrey, Macleod's Notes, *loc. cit.*

† J. L. Clarke, *Lancet*, and *Syd. Soc. Year-Book*, 1864; also, *Circular No. 6, War Department, Surg.-Genl's Office*. 1865.

‡ Gross' System of Surgery, *loc. cit.*

efficient local anæsthetic agents we have\*. In fact, the general as well as the local effects of this remedy are entirely of the character indicated in this disease.

*Applications to the Spine* have been equally numerous and various with the local remedies. We shall notice only those which seem from the pathology and from trial to be of most value. Their action seems to be almost entirely counter-irritant. Ice applied the whole length of the spine, the effect of which is anæsthetic, depressive, the opposite of that just mentioned, has been followed in some cases by recovery†, whether as effect or as concomitant does not appear. It is not difficult to understand that the application might render the spinal cord partially or even entirely insensible to peripheral irritation, but we apprehend there would be much danger to the integrity of the cord by this remedy. It needs further evidence of its applicability‡.

*Counter-irritation* demands our serious attention. The actual cautery, cantharides, and chloroform are among the most manageable, eligible, and efficient means of this class, and are capable of fulfilling the indications in rapidity or degree. The actual cautery has been applied in quite a number of cases; in some with incisions. This is certainly very severe treatment, and in some cases has been followed by recovery; but we apprehend the same objects may be accomplished by the early use of less violent means; though we can conceive cases in which there has been delay, or where there was extreme violence in the symptoms, in which it might be used to produce a quick and permanent impression. The blister of Spanish fly has been more frequently applied than probably any other counter-irritant in these cases. Its action is not so rapid as might be desired, but is somewhat permanent; and if it even prolong the case, and thus give time for other remedies and the administra-

\*U. S. Disp., Art. Cimicifuga; also, *Med. Examiner*, N. S., vol. 11, 809.

†*British Medical Journal*, 1864; also, *Lancet*, 1864.

‡Dr. R. B. Todd, *Med. Gaz.*, and *Rank. Abst.*, 1849.

tion of nutrition it is beneficial. We find a number of cases in which the fact is noticed, that whenever strangury was produced the tetanic symptoms were ameliorated, showing, as we think, the free application and action of the blister rather than any benefit from concomitant and consequent strangury. Its use is certainly to be recommended along the whole length of the spine, and from three to four inches wide. This will also give opportunity for the administration of remedies endermically if it should be required.

*Chloroform as a Local Application* has attracted considerable attention recently in this city, chiefly on account of its successful sequence in the case reported by our friend, Dr. PAPIN. The details are given in the November number of the *Humboldt Medical Archives*.

From a perusal of the case we may fairly infer that time was gained, a most important item, and that in the earlier application of the remedy the spasms were "*arrested*" and their recurrence "*prevented*," two very essential results. Notwithstanding this, after the application had been thoroughly made and continued as long as was deemed practicable, the recurrence of the spasms was guarded against by the inhalation of chloroform, and some general remedies were also administered, very properly, and with apparent good effect. The happy issue of the case must be very gratifying to both parents and practitioner, and we should gather as much truth from it as the facts will warrant. We regret that the details were not more fully given. We believe that chloroform is a very eligible vesicant when thoroughly applied as in this case; for similar cases we know of nothing better. It does not appear to be claimed that the chloroform had any peculiar or specific action; we should regard it entirely in the light of a rapid local counter-irritation, acting on a general principle, and meeting a permanent indication of the disease.

Cupping to the spine is recommended by J. L. CLARKE\*, but we presume the means already mentioned,

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\*Niemeyer *loc. cit.*



if applied thoroughly, will act more efficiently and permanently.

*General and Internal Remedies.*—Since it seems to be beyond dispute that exposure to cold and dampness has much to do with determining the onset of the affection, especially of the rheumatic or idiopathic varieties, it would be but rational to expect benefit from the *warm bath*, a result that did ensue in some cases reported by HASSE and others. The objection that touching or moving the patient brings on the spasms only obtains in reference to the first movements, but is not true throughout. From the generally relaxing effect without depression, some have insisted on this means as among the best for the early stages. Many of those most experienced in treating this malady recommend it highly “in the beginning.”

But the almost universally approved remedy is *opium*. This has been the sheet anchor of such men as Drs. MOSLEY, MORRISON, Sir G. BLANE, and men in our own country who have had like observation and experience in this disease. We shall pass by with a mere mention on account of the prominence of the authorities, all such expressions as that “opium not being a sedative to the spinal cord, therefore its use in tetanus may be dispensed with, except in small doses as a sudorific;”\* “*ou bien on donnera des lavements avec vingt ou trente gouttes de teinture d’opium.*”† It must be given in heroic doses in quick succession until narcotism is produced, and tetanic spasm is completely arrested. The dose, in quantity and in frequency of repetition, must be regulated entirely by the effect. Dr. MOSLEY gave large doses of opium frequently repeated. Dr. MORRISON is of the same opinion: “Let an adult commence with a hundred drops of the tincture (the bowels being opened), increasing each successive dose one third every two hours, unless sleep or stertor in the breathing ensue.” “I once gave a patient who is, I believe still living, ten grains of

\* Dr. R. B. Todd, *Med. Gazette*, 1849; *Ranking’s Abstract*, 1849.

† Niemeyer *loc cit.*

opium, twenty of calomel in pills, and five ounces of the tincture of opium in wine, all in the space of twelve hours." The late Dr. JOHN FISHER, Vice President of the Mass. Medical Society,\* mentions the case of a young female affected with tetanus, for whom he ordered twelve grains of opium every ten minutes until she had taken seventy-two grains; which removed the spasm, produced a comatose insensibility, slow, stertorous breathing, and a slow, full pulse. After an interval of eight hours the spasms began to return. The remedy was given as before, and with similar results. In this manner the opium was repeated at intervals of eight hours for three days, when the spasms finally ceased, and she recovered. During the period of three days she took nearly eleven drachms of excellent opium. Dr. MORRISON mentions another case, in which half an ounce of tincture of opium in four ounces of rum was given as a first dose, directing the spirits to be frequently repeated. The man recovered in a few days. These cases are mentioned, (and many more might be added) to show the principle on which we should act, and how we should act.

There are objections to giving opium in solid form or in powder on account of the torpidity of the digestive apparatus. We would much prefer the tincture, or morphine, on account of its being absorbed more readily and certainly; and the effects can be watched and regulated with more certainty. MACLEOD began with two grains of morphine, and then diminished to one grain every hour till sleep was produced, and sleep was always followed by marked alleviation.

*Chloroform.* Dr. R. B. TODD, in giving his deductions from experiments with ether ("and chloroform as possessing identical virtues"), speaks very highly of the depolarizing effects of these agents on the spinal cord. The effect on the polarity of the cord is directly antago-

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\* Medical papers communicated to the Massachusetts Medical Society, No. II, part I. Also *Med. Repos.* Vol. XII and Vol. III, N.S.

nistic to that produced by strychnine and tetanus. In his experiments he showed that in the cases of animals poisoned with strychnine, the tetanic spasms were controlled again and again, and thus the life of the animal was prolonged for many hours; "whereas another animal of the same size, poisoned at the same time and with the same dose, but not etherized, died rapidly." He farther remarks that the great point which ought to engage our attention in the administration of these agents for tetanus is, to know how to avail ourselves of the depolarizing power without at the same time producing their injuriously depressing influence. "Chloroform," says this authority, "weakens the force of the heart—sometimes increasing, at other times diminishing the frequency of its action. Hence, while administering it in tetanus, we shall find it necessary to use, with increased diligence, the means calculated to uphold our patient's strength;" and we must be careful that the sleep of chloroform does not deprive him too long of those supplies which alone can counteract the destructive asthenia, and thus hasten rather than retard or prevent the fatal issue.

These statements, partly theoretical and partly experimental, would lead us to expect much from chloroform, which indeed later experience has justified. In case of poisoning from strychnine, it gives time for the emunctories to eliminate the poison in part or entirely, (as is the rule with poisons), by rendering the spinal axis partially or entirely insensible to its immediate effects. Will it not act in the same manner in the case of tetanus, to wit, render the cord more or less insensible to the peripheral irritation till this latter shall be diminished, changed, or removed? And will it not render the system at large more or less completely insensible to the irritation and change already set up in the substance of the cord?\* We believe it will effect these objects in large degree in the milder cases. This appears to us to be the *rationale* of its action.

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\* See the pathological anatomy of the disease.

Evidently the administration of such quantities of this substance as are sufficient to produce the desired effect, must not be continued through too long a period without an interval of rest, in order that the functions of nutrition and elimination may return towards the normal standard.

Alternating this with opium we should advise as being far preferable to the exclusive use of either one.

*Tobacco.* When there exists a high grade of fever and strong arterial action, this remedy might be given; but its action is too depressing to admit of its general application. Dr. TODD says, "I have seen more than one patient die, *cured* of tetanus, under this remedy."

*Cannabis Indica* has been followed by success in some cases. Its claims, however, are not sufficiently established to merit its preference over other means already mentioned. The same may be said of woorara or *curare*. H. DEMME, in a paper on the properties, chemical, pharmaceutical, and physiological of this plant, mentions twenty cases treated by it, out of which number eight recovered. This is at least encouraging.

*Alcohol.* We have reports of recoveries in which this seems to have been the principal remedy; one in which "thirty-two ounces of whiskey were given on the night of the crisis."

*Cathartics* are important adjuncts in the treatment. The milder, the less depressing the article, if it produce the desired action, the better. Mercury has been extensively used and highly spoken of by some who have practiced in tropical climates. It has even been urged that salivation should be produced as rapidly as possible. With this we entirely disagree. Dr. MOSLEY says:† "It is my opinion that mercury used in tetanus has killed more than it has cured; and further, I suspect that those who have

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\* *Schweiz Zeitschr. für Heilk.* II, 356; also an abstract in *New Syd. Soc. Year Book*, 1864.

† *Am. Med. Times*, 1864, II, 29.

‡ Mosley, *Tropical Diseases*; also *Med. Repos.* Vol. III, N.S. p. 235.

recovered when this remedy has been used would have recovered without it; for many people have been attacked by tetanus in the West Indies under a course of mercury."\* Also, TORREY says that mercurial frictions appeared to aggravate the disease.\* Its general action is not compatible with the marked depression and asthenia. If given at all it should be as a cathartic, followed by castor oil or some more active adjuvant. Tincture of cantharides has been followed by recovery in some well-marked cases; in others it has entirely failed; and upon the whole we would not regard it as an eligible remedy. Oil of turpentine and castor oil would appear much better suited to meet the indications. A free evacuation by these two articles, aided if requisite by enemeta, should be secured at least every twenty-four hours during the course of treatment. Promote the secretions, but husband the strength of the patient.

*Supporting Treatment.*—Nutrition is a point of primary importance. All writers of experience insist on the great importance of measures to sustain the rapidly diminishing strength. J. PEET, Esq., says in speaking of the assiduous use of nutritious food, that he considers it an essential element in any plan of treatment; and even goes so far as to say that in many cases the favorable termination will be more dependent upon it than upon the remedies. Of the less violent cases this may be true. Prof. LAURIE, of Edinburgh, on this matter, recommends keeping the patient in a dark room, absolutely quiet, and giving him as much nourishment as he can swallow. Wine, quinine, iron, and other stimulants may be added, according to indications, as the disease continues.

The treatment of the infantile cases must be varied on general principles, the essential nature of the disease being the same.

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\* Larrey's Memoirs, translated by Hall, Vol. 1. *Med. Repos.*, *loc. cit.*

## RESUMÉ.

*Pathology.*—Irritation (and its direct consequences) peripheral or eccentric, central or spinal, with proliferation of the connective tissue, with other changes in the medulla oblongata and spinal cord, mainly in the medullary substance.

*Cause.*—Injury; exposure to a cold, damp atmosphere; or both of these causes combined.

*Symptoms.*—Tonic spasm, with remission—without intermission, especially of the muscles of mastication, and of the neck and back.

*Course.*—Violent, or of milder form; acute or chronic.

*Treatment.*—Remove the irritation, if it can be found, by section of nerve or amputation; counter-irritants to the spine; narcotics; anæsthetics; cathartics; nutrition; stimulants and tonics.

Commencing with the case of Dr. PAPIN, which occurred Aug. 25th, there were six cases in the city between that date and Nov. 11th.

CASE 1. Dr. PAPIN's first case, trismus nascentium; born Aug. 18th; attacked 29th; symptoms universal; (see detail, *Humb. Med. Arch.*): entire duration, 15 days. Treatment, gentle purgatives, nourishment, blistering thoroughly and repeatedly the whole length of the spine by means of chloroform; chloroform inhalation, but not to any considerable extent, nor persistently. *Recovered.*

CASE 2. At Saint Louis Hospital, in care of Prof. GREGORY: LAWRENCE FINNEGAN, age 22. Laceration of the fingers of the left hand, Oct. 11. After two or three days the hand was laid on a splint, and flax-seed poultice applied. Entered Hospital Oct. 21st. He complained of having felt pains about his throat and neck the day before, Oct 20th. About noon on the day of entry to the Hospital, he complained of spasms of the muscles of mastication. On the 22d, 11 A.M., the spasms of the back of the neck were most prominent. Attempts at swallowing produced spasms of the muscles of deglutition. By 9 P.M. the spasms were almost universal, except when interrupted by chloroform. There was a tendency to vomit on attempting to swallow, or when the spasms were excited by any other means. Pulse in the morning 85—90; in the evening 100. At 11 A.M. he had a hypodermic injection of morph. 1-4 gr. Attempts were made to administer whiskey with but partial success. Croton oil was given, 4 drops to two ounces mucilage of acacia, tea-spoonful doses every two hours till 5 P.M. This, with the aid of simple injection, produced two

free operations. Chloroform was given moderately till 3 P.M., when he was kept fully under its influence for one hour. At 6 P.M. attempts were made to administer cannabis Indica, but unsuccessfully on account of the inability to swallow. From 9 P.M. till morning the spasms were relieved by chloroform. 22d, 11 A.M., pulse 130. Gave 1-40 gr. atropine by hypodermic injection, to be continued every four hours. *Died* at 2 P.M.

CASE 3. At Saint Louis Hospital, in the ward of Prof. GREGORY. JOHN MACQUINN, aged 40; admitted Oct. 15th; injured a day or two before. When admitted the left little finger had been amputated on account of the injury, which was of a lacerated, contused character, supposed fracturing of the bones; the ring and middle fingers were also injured. The hand was placed on a splint and dressed with carbolic acid and oil. The case seemed to do well for two or three days; then inflammation running rather high, the carbolic acid was discontinued, and flax-seed meal poultice applied. On the 20th some stiffness was felt about the neck, but the patient failed to report it to the medical attendants. On the 21st there was well marked trismus. 22d, A.M. Muscles of mastication and deglutition rigid, with frequent spasms; pulse 125; pupils contracted; anxious expression of countenance. Spasms soon became more or less general. The hand was kept immersed in warm hop tea; hypodermic injection of 1-4 gr. morphine; chloroform to partial anæsthesia; whisky in tea-spoonful doses till he had taken a quart. Chloroform was applied to the spine by friction. P.M. Pulse increased in frequency; spasms excited by any friction or touching; croton oil given in same form as in case No. 2. 6 P.M. Spasms of the muscles of deglutition increasing. 7 P.M. Commenced giving tinct. cannabis Indica, twenty drops every hour; continued till 4 o'clock A.M. 23d. From 11 P.M. 22d till 5 A.M. 23d, he was in a state of complete narcotism by means of chloroform, whisky, and the Indian hemp. The spasms became less controllable, and he *died* at 6 A.M.

CASE 4. A case seen by and for the details of which I am indebted to Dr. E. S. FRAZER. A young person aged 12, received a slight contused wound on the side of the face, over the inferior maxillary bone. There seems to have been a small wound with the contusion at first, but very insignificant to all appearance. The injury occurred about the 1st of October; the child continued running about; the doctor was called in on the 9th. Thus eight days had passed before the appearance of the first spasm. The slight wound was nearly closed at this time; the muscles of motion and deglutition were the first affected; but the attack soon became general. Treatment: local, nothing; general, chloroform and cannabis Indica. Duration of the disease but two days. *Died* on the 10th.

CASE 5th. The second case of Dr. PAPIN; trismus nascentium. Child born Oct. 15th; the spasm commenced on the 8th day, Oct. 23; spasms became universal. Treatment, chloroform applied to the spine, but not persistently on account of interference by outside parties in the Dr.'s absence. Duration of the disease, five days. *Died*. Both these infants were white.

CASE 6. By Dr. BUETTNER. A Mr. DANG; aged 40; by trade a carpenter;

injured Nov. 8th; received a contused and lacerated wound of the right hand, with fracture of the carpus and metacarpus. Spasms commenced on the 11th, namely on the 7th day, first in the muscles of mastication and deglutition; the next the pain in the chest—at the precordia, very decided in the afternoon; pulse about 100, full; bowels inactive. Treatment: local; at the commencement, Nov. 5, applied a lotion of liq. plumb. subacetatis, arnica, opium, and aconite; later, removed the loose pieces of bone, and applied LABARAQUE'S solution and flax-seed poultice; when tetanus set in, applied ung. morph. Took morph. 1-8 gr., quin. 3 grs. twice a day, and sulph. magnes. as required. With commencement of the attack gave tinct. of gelseminum, 20 drops every hour, which was followed by amelioration of the symptoms the first six hours, after which they became worse. Then gave quin. 5 grs. every three hours, podophylline 1-4 of a grain as a cathartic. Some other simple remedies were used. Duration of disease thirty six hours. *Died.*

No post mortem examination made in any of these cases. A careful examination of the microscopic appearances of the cord and medulla oblongata would be of much interest, if the parts were removed from the spinal canal with care. The cord may be preserved for examination, by being cut into pieces about an inch and a half or two inches long, and put into a solution of chromic acid, two grains to the ounce of water. I should be glad of the opportunity to examine such specimens.

I am obliged to a number of medical friends for the details of these six cases, which it has been necessary to abbreviate as much as practicable. Especially should I mention my friend Dr. CARSON, who attended the two cases at the hospital; and also Dr. WISLIZENUS, who has furnished the exact condition of the atmosphere for the month of October, during which four of the cases occurred.

It will be seen, by comparison, that a short time, a day or two, before the attack of the two cases at the hospital, the thermometer was below freezing—at the minimum for the month; at the same time the dew point was high, rain occurring on the 16th. About the time Dr. FRAZER'S case was attacked, the thermometer was at freezing. These tables are inserted to show the precise conditions, that every one may compare for himself. It is simply a confirmation of the views of the subject held by all observers, that expo-



sure, or cold damp atmosphere, is a powerful auxiliary in determining the disease.

DATE.	THERM. FAHR.		REL. HUMID.		DATE.	THERM. FAHR.		REL. HUMID.	
Oct. 1868.	Min.	Max.	Max.	Wet Bulb.	Oct. 1868.	Min.	Max.	Max.	Wet Bulb.
1	60.0	67.5	88	2.0	17	31.0	53.5	73	3.0
2	59.5	75.5	94	1.0	18	36.5	49.5	92	1.0
3	58.5	63.0	94	1.0	19	46.5	57.5	96	0.5
4	48.0	69.5	96	0.5	20	41.0	56.5	93	1.0
5	52.5	70.5	86	2.0	21	46.5	59.0	96	0.5
6	51.5	72.5	96	0.5	22	38.0	47.5	87	1.5
7	67.5	72.5	92	1.0	23	35.0	54.0	77	2.5
8	42.5	67.5	89	1.0	24	40.0	68.5	87	1.5
9	31.5	49.5	90	1.0	25	51.0	74.0	84	2.5
10	37.5	59.5	72	4.5	26	49.0	76.5	89	2.0
11	45.5	71.0	72	1.5	27	56.5	72.5	79	3.5
12	49.0	72.5	69	4.5	28	39.5	58.5	78	2.5
13	51.0	68.5	73	4.0	29	44.5	71.5	79	2.5
14	53.0	70.5	90	1.5	30	55.0	69.0	85	2.5
15	52.5	65.5	90	1.5	31	40.0	45.5	79	2.5
16	52.0	61.5	100	0.0					

December, 1868.

#### ATRESIA VAGINÆ—OPERATION—CURE.

By MONTROSE A. Pallen, M.D., St. Louis.

Some time during the month of August, at the request of my friend, Dr. R. M. JORDAN, I visited with him a lady who was suffering very much from menstrual retention, caused by a complete adhesion of the vaginal walls antero-posteriorly.

The history of the case was as follows: she had aborted early in the preceding May, in the third month, after a hard day's work; the hæmorrhage being great, was checked by the usual styptics and tamponing, and a profuse suppurative inflammation of the soft parts ensued. Dr. JORDAN discovered the existence of the atresia in the early part of July, after the patient had had a period of four days' suffering with the menstrual retention, and at that time a small swelling (tumor) was detected above the *cul-de-sac* of Douglas. She went over another period with increased suffering and an augmentation of the swelling, and it was at the period of the third menstrual molimen that I saw her.

Careful digital examination failed to detect the least sign of an opening in the vagina, and with one finger of the other hand in the rectum, a soft fluctuating tumor occupying the space of Douglas could be easily made out, and was about the size of a small orange.

A Sims' speculum was then introduced into the vagina, and the marks of the lower margin of the adhesions were plainly discernible, at either extremity of which were small puckered folds, which looked like the openings of sinuses, but into which neither Dr. JORDAN or myself could introduce the smallest probe. The cicatricial line of adhesion was crescentic, the convexity looking towards the anterior wall of the vagina. Her condition was fully explained to her, and an operation proposed, which was accepted. From certain unforeseen circumstances, the operation was delayed until the 11th of November, and in the performance at that time I was assisted by Drs. JORDAN, COOPER, PAPIN, NIEHAUS, and J. J. McDOWELL; Drs. SCOTT, LEETE, YARNALL, CARSON, M. M. PALLAN, and POTTER coming in during the various stages of the operation.

The patient (having been carefully examined by those gentlemen who were first present, and the parts found to exist as above described, with an increased size of the tumor) was placed in the left lateral semi-prone position, a Sims' speculum introduced, and the adhesions were found to be about 1 1-4 inches from the vulvar outlet. These adhesions were rendered very tense by the perineal retraction made by the Sims' speculum, and were carefully divided in their entire extent from one extremity to the other by means of scissors; a sound in the bladder, and the finger of the left hand in the rectum serving as guides; the scissors sections were made to the depth of about 1 1-2 inches on the anterior wall. A hæmorrhage coming on, the scissors were abandoned, and the patient was then chloroformed, turned on her back, and the adhesions were forcibly separated by the fore-finger of the right hand, that of the left being kept constantly in the rectum. After a

depth of about three inches anteriorly had been obtained, the outline of the sac was very well discerned, as was also the neck of the uterus. The blood had evidently reflected the sac anteriorly, as it insinuated itself downwards and behind the upper part of the adhesions on the posterior vaginal wall. The sac being very soft was ruptured, and a dark, tarry syrupy fluid burst forth. We had reached the imprisoned menses. The opening was divided farther by means of the scissors, and about a pint and a half of retained fluid evacuated, when the adhesions around the anterior portion of the cervix uteri were separated by the tearing process with the finger. There were no adhesions on the cervix posteriorly, they having been dissected away by the effused blood if they had ever existed. A Simpson's sound was passed with ease into the uterus, which was not much distended; its axis was normal, and the depth of its cavities was hardly three inches. The parts were well washed out with tepid water, and a glass plug inserted into the vagina to maintain the parts patulous. She rested very comfortably that night under a full dose of opium, and when seen next day by Dr. WM. BARRET and myself was doing very well. The parts were well syringed out with a warm solution of bisulphite of soda for disinfectant purposes, and the plug readjusted.

Upon my visit next morning, Nov. 13th, I found her suffering with intense hypogastric, lumbar, and dorsal pains, great thirst, and great depression of spirits; the pulse was 126 per minute; the skin harsh and dry; the tongue was coated with a dirty brownish fur; the eyes injected; she had tympanites, and every symptom of peritonitis. I was astounded at so rapid a development of bad symptoms; I feared a septicæmia. She was immediately administered a large dose of opium and quinine, alternated every hour with scruple doses of the bisulphite of soda, until some decided impression was made on the pulse; warm vaginal injections were ordered every two hours, containing bisulphite of soda and permanganate of potash,

a drachm of the former and a scruple of the latter to a pint of water; the soda injection one hour, and the potash the next. I saw her that same evening, and substituted sulphate of morphia for the opium, giving her every three hours a solution, acidulated with aromatic sulphuric acid, of 1-4 gr. of morphia and four grains of quinia; hot applications were applied to the abdomen, and as the urine had not been voided, about six ounces, of a dark, fetid character, were drawn by the catheter; the pulse ranged from 126 to 130 per minute.

On the next day there was no change, and as the patient complained very much of the glass plug it was removed from the vagina. The same treatment, injections and fomentations continued, together with beef tea and cream for nourishment; but the patient had no appetite, and loathed her food.

Nov. 15th.—Pulse 132; skin softer; tongue moist; passed urine several times during the night; less vaginal pain; less hypogastric pain; increased tympanites. Medicine discontinued, as the pupils were very much contracted, and the bowels were cleared out by means of warm water injections. A saline cathartic ordered.

Nov. 15th, 10 P. M.—Pulse 98; tympanites very much less; not so much abdominal tenderness; tongue cleaner, skin moist; urine voided copiously; saline had acted twice; no appetite, but no loathing of food. The bisulphite of soda was ordered in scruple doses every four hours, and Hoffman's anodyne, 1-2 drachm at a dose, if pain should supervene. The other treatment was continued as before.

Nov. 16th, 9 A. M.—Pulse 90; a general amelioration of all symptoms; nourishment, as well as bisulphite of soda continued; the discharges from the vagina very abundant, but not at all fetid as they had previously been since the 13th of the month. From this time forward she gradually improved, and the glass plug was inserted several hours each day to prevent the cicatricial contraction so frequent after operations of this character.

Nov. 19th.—The patient sat up for the first time, and the vagina was free from soreness; the raw surfaces were nearly all healed, and the sac around the neck of the uterus non-adherent, with an opening of one and a half inches in diameter. The sound passed into the uterus without difficulty.

Nov. 21st.—The menstrual molimen was evidently at hand, as there were bearing down pains, sacral and lumbar distress, increased pulse, etc., but no discharge of blood. This condition lasted for four days, when a careful examination revealed no cause for the non-appearance of the blood, as the Simpson sound passed with ease into the uterus; and the vaginal opening had not contracted, nor had any new adhesions taken place. Up to December 10th she was not seen again, but she continued to exercise her usual domestic avocations, and inserted the glass plug every night upon going to bed. On December 10th, however, I again passed the sound; the opening in the sac still maintained its size, and all of the raw surface of the vagina was perfectly healed. Her menses appeared in due form on the 15th of December, and were ushered in with considerable pain. To-day (Dec. 17th) I visited her with Dr. J. J. McDOWELL, and found her at work about the house, and the menstrual flow proceeding painlessly and profusely.

This case is one of the fortunate few that have recovered from a peritonitis following such an operation, because usually such complications are fatal, according to BERNUTZ and GOUPII, and others, who have reported them in Europe. Dr. EMMET, however, has not encountered these violent and serious symptoms of surgical fever sequelæ in his practice, at least I have seen no account of such reported, although he has, perhaps, operated more than any other surgeon in America.

Another interesting feature of this case was the non-appearance of the catamenia, notwithstanding there was every symptom of the menstrual molimen.

As the function of menstruation is re-established, the vagina intact, it may be safely claimed that the patient is cured, and that the operation was successful. The glass plug, however, will be worn for some months to come as a preventive of the contractions of the cicatricial tissue to which these patients are liable. This precaution is absolutely necessary, because such results have followed the use of the knife, but have not followed that of the scissors, according to Dr. EMMET; yet, notwithstanding the latter were used, together with laceration by the finger, as practiced by the distinguished surgeon of the State Woman's Hospital of New York, I think we can not be too cautious.

821 PINE STREET, Dec. 17, 1868.

#### CASES IN PRACTICE.

1. *Fracture of the Os Frontis with Depression—A Suggestive Case.* Reported by A. W. REESE, M.D., Warrensburg, Mo.

On Nov. 19, 1852, I first saw the subject of the following remarks which are compiled from notes taken at the time referred to. JOHN KILLDUFF; æt. 26; Irishman; works on railroad; heavy set; sandy hair and whiskers and florid complexion; of sanguineo-nervous temperament and robust constitution. He had received an injury on the 4th of Nov., that being election day, from a blow on the head with a brickbat. The blow was received on the left frontal protuberance, causing a considerable wound. He was picked up stunned and insensible, carried into a drug store hard by, and there had his wound dressed(?). Reaction soon occurred, and the man walked out to his boarding house, 4 miles from town, within an hour or two after the accident.

These facts I learned soon after my arrival at the house, on the 19th of November, fifteen days after the date of the injury. I learned furthermore, that he had suffered but

little inconvenience from the blow, that his appetite was good, that his bowels were regular, his tongue clean, and he had slept well, and that he had walked up to town several times to have his wound dressed. Two or three days before the time of my visit he began to grow drowsy. He would go to sleep while sitting in his chair talking to those about him, and was aroused from this stupor with difficulty; and when at length he was roused up by his friends, he would almost immediately sink back into a drowsy and incoherent state.

When I saw the patient for the first time, at 12 M., Nov. 19th, I found him in a profound state of coma. The respiration was slow, labored, and stertorous, and accompanied by a peculiar blowing or whiffing sound. The pulse was full and regular, but very slow, 48 beats to the minute. The surface was bathed in a cold, clammy perspiration. Special sensation had ceased. The wound had entirely healed, with the exception of one small, suppurating point.

After deliberation on the case, and with the concurrence of three physicians who were present, an operation was determined upon even "at the 11th hour." An inverted V shaped incision, was made over the site of the injury, and about three inches in length each way. The flap was then dissected up, and the first thing that met my eye was a mass of felt, which proved to be, on extraction and examination, portions of the hat worn by the patient when the injury was received. Several pieces of the brickbat were also extracted from the bottom of the wound. Having removed all these foreign bodies, I found a large piece of bone crushed down upon the brain. The trephine was applied and the piece of bone removed. On its elevation pus spurted from the orifice. Several small fragments of bone which had been detached by the blow were also removed.

I observed, during the progress of the operation, an increasing pallor of the patient's face; the respiration grew more and more labored, stertorous, and whiffing; the

heart's action more feeble and depressed ; and, in short, all the symptoms were indicative of approaching dissolution. The operation was completed a little after one o'clock, P.M., and he survived it but four hours. He sunk at 5 P.M., having never emerged from the deep coma in which I found him. No post-mortem was made, all attempts to secure it being unavailing, on account of the determined superstition of his friends.

Here was a piece of gross mal-practice in the medical (?) man who first saw and had charge of the case. Had the foreign bodies lodged in the wound been then removed, and the depressed bone elevated, and proper attention given to keep down excitement, there is no reason why this man might not have been saved.

October 12, 1868.

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2. *Dislocation of the Crystalline Lens.* Reported by REZIN P. DAVIS, M.D., Parkersburg, West Virginia.

JOHN T. M., a young man, aged 19 years, healthy and robust in constitution, while out gunning with a comrade April 7th, 1865, met with the following accident. After hunting for some time with but little success, they concluded to spend the remainder of the day in "shooting at a mark." Accordingly the lid of a cap-box was placed against a tree, at some distance, and M.'s friend was to have the first shot, M. standing near and at right angles with the tree to see where the ball took effect and mark accordingly. The shot was fired, and M. says he immediately fell to the ground, experiencing the most excruciating pain in the right eye. After recovering from the shock he discovered the loss of sight in the right eye. On the 8th, the day following, he reported to me (having travelled twenty miles), when, upon an examination of the eye, the lens was found lying in the lower part of the anterior chamber, against the cornea, nearly shutting from sight the pupil—the pupil remaining about its natural size, the



eye otherwise looking healthy, and no signs of external injury. I insisted upon an operation to remove the lens, explaining to him the danger in allowing it to remain so; but he positively refused; whereupon I ordered him a brisk cathartic, and advised the free application of cold water to the parts. The same day he returned home. I heard nothing from him until March 20, 1866, when he again called to see me. Upon an examination of the eye, I found the lens entirely absorbed, and the eye in a healthy condition, the pupil remaining slightly dilated. I furnished him with a cataract glass, by which he was enabled to see as well as any one with the loss of the lens. He had suffered but little pain after leaving me, and would not have been cognizant of any injury having been sustained, had it not been for the loss of sight.

The case is remarkable on account of 1st, the freedom from inflammation and pain during the reparative process; 2d, the rapidity with which the whole lens was absorbed; and last, the natural condition of the eye after absorption had taken place.

December 2, 1868.

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3. *Hepatic Abscess following Traumatic Cause, Discharged through the Right Lung.* Reported by W. DRECHSLER, M.D., St. Louis.

HENRY R., æt. 13, was taken very ill during the night of January 24, 1868. I found him the following morning with high fever, dry skin, and acute pain in the right hepatic region. Upon percussion I found increased dullness, and a small, hard swelling about the size of a hen's egg. He had vomited three or four times during the night, and had a chill preceding the fever. There was no jaundice. On questioning the boy as to the cause of his complaint, he told me that he had been sleigh-riding, lying with his belly on the sleigh, when a boy fell on him; since that time he felt a pain in his right side. As to diagnosis,

there could be no mistake in making it acute congestion of the right lobe of the liver. I ordered four cut cups, and viij grs. calomel with jalap; and a castor oil emulsion  $\mathfrak{z}$  iij, with sodæ nitr.  $\mathfrak{z}$  ij, and morph. sulph. gr. j; half a tablespoonful every two hours. The powder caused a good evacuation, and the vomiting ceased; the pains also diminished. At the end of four days all symptoms of congestion, the swelling included, had entirely disappeared.

But other symptoms now set in. The skin, which had been moist, became hot and dry; the tongue beef-red and dry, and delirium set in with exacerbation in the evening; in brief, all the signs of a "typhoid state." I prescribed 2 grain doses of pulv. Doveri and jalap every three hours, and put him on a light, nutritious diet. Under this treatment he began to improve gradually. The skin became moist again, the tongue lost its fur, the fever left him, and the appetite returned, when, on the 16th day, he freely partook of old sponge cake which caused an indigestion; this was remedied by a cathartic, followed by tonics, and I now had the best hope of soon seeing my patient convalescent, when I was unexpectedly summoned at 3 o'clock in the morning of February 13. Upon entering the room, I found it filled with a stench caused by the frequent expectorations of the patient, who had commenced shortly after 2 o'clock to cough up a stinking, bloody pus. He was pale, and covered with a cold perspiration, and at intervals of eight or ten minutes would expectorate two or three tablespoonfuls of this fluid, accompanied with loud rattling in the right lung. I ordered brandy, but it proved of no avail. He died at 6 A. M., after having discharged about a pint of pus. A post mortem examination was not allowed.

In reflecting on this case and its fatal issue, I came to the conclusion that the typhoid state was but the symptom of the formation and presence of pus in the liver. Most strange it was that since the fourth day of his sickness he never complained of pain in his right side; there was no enlarge-

ment of the liver; he could lie on either side or sit up; had no difficulty in breathing, and the bowels were moved regularly. There had never been any bulging of the ribs, nor any trace of fluctuation perceptible. The cause had evidently been a mechanical injury of the liver.

December, 1868.

4. *A Case of Purpura.* Reported by W. DRECHSLER, M.D., St. Louis.

On April 13, 1868, a male child, five months old and well nourished, was brought to me to be prescribed for. It had the day previous vomited twice, and this day (13th) six or eight times, and never anything but curdled breast-milk. There was no fever; the bowels were regular; the tongue was coated white. I prescribed 1-4 grain doses of calomel every two hours, and a sinapism to the stomach. The next day the vomiting had ceased.

On the 16th the child was shown to me again. It had passed a very restless night, with some fever, and in the morning an eruption was visible on the thigh and arms, which consisted of small bright red spots of about the size of pin-heads.

The next day (17th) more spots had made their appearance, and the old had increased in size; there were a few in the face, on the chest, as also on the ear, which was hard and swelled and of a brown color; the extremities œdematous. There was high fever and great restlessness, and touching the swelled surfaces caused great pain. I ordered a saline purgative.

April 18th.—The medicine caused a few evacuations; the spots had all increased in size and run together, some to the size of a hand, and the color now was a dark brown. The child presented a truly pitiable sight; it looked as if it had been beaten all over; the fever had left, and the little patient was more quiet; the scrotum and penis were swelled—the prepuce to the size of a walnut; both eyes were closed, and the cheeks formed one dark-brown blotch;

the swelling of the extremities was somewhat diminished. I ordered washing with tepid vinegar, and prescribed, quiniæ gr. vi, tinct. ferri chlor. 3 j, syr. simpl. 3 vij; half a teaspoonful three times a day.

April 19th.—The child is quiet, without fever; arms and thighs thinner; the brown color of the patches fading, turning to green and yellow; one eye is open, but the scrotum and penis fearfully swelled. Ordered chamomile tea, with lead water for fomentations. The child could not take the breast as the gums and tongue were also covered with spots, and swelled; the bowels acted regularly; urine dark-brown. Continued the treatment.

April 20th.—The child had rested well all night; the other eye was now open; on the arms and legs, where the spots had nearly all disappeared, new spots are to be seen, with some swelling, but not as much as before; the color this time is of a brighter red, and the extravasations are more deeply seated; there is no pain apparently; the child plays and nurses well. Treatment continued.

April 21st.—The patient continues to improve; all the spots disappear, even the new ones are changing color already, without desquamation. Prescribed syrup of bark and iron to be given for some time.

About a week later the mother told me that the spots had made their appearance for a third time in a milder form than the second.

The interest in this case centres in the age of the patient—an infant of five months nourished only at the breast; the fever at first accompanying the eruption, which authors describe as an unusual symptom; and the two repetitions of the ecchymotic extravasations in the course of two weeks. Respecting the cause nothing definite could be ascertained. The parents belong to the laboring class, are in tolerably good circumstances, but use salted meat largely during the winter and early spring. Could a dietetic influence of this nature be transmitted by the mother's milk?

December, 1868.

## Reviews and Bibliographical Notices.

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*CLINICAL LECTURES ON DISEASES OF THE LIVER*, Jaundice, and Abdominal Dropsy. By CHARLES MURCHISON, M.D., F.R.S., Fellow of the Royal College of Physicians; Physician to the Middlesex Hospital; Lecturer on the Practice of Medicine at the Middlesex Hosp. Med. College; etc. New York: Wm. Wood & Co. 1868. 8vo., pp. 556. Price, \$4 00.

[For sale by Frary, Cowan & Krath, Booksellers, 219 North Fifth Street ]

The impression which this series of lectures has made upon us is so favorable that, if we were to give utterance to all the praise we feel it merits, we fear our language might be thought hyperbolic. Let us say, then, only, that it is the most instructive, the most *teaching*, work on its subject in our language. The plan of the work is thoroughly clinical; it aims principally at the inculcation of rules and means for the recognition of the affections of which it treats, and a careful study of it is well calculated to engender in the student the *habit* of accuracy in diagnosis,—the *sine qua non* to intelligent therapeutics. Pathology, pathological anatomy, etiology, etc., are not altogether excluded,—but they are introduced only where they serve to elucidate the points on which the diagnosis is based; everything is made subservient to this. Dr. MURCHISON's book reminds us forcibly of HENOCK's treatise on abdominal diseases, which is constructed on a similar plan. HENOCK made enlargement the leading symptom in the affections of the liver,—the centre around which he grouped his clinical sketches. Our author pursues the same course, and next subdivides the enlargements by the aid of another symptom, pain. There is nothing dogmatic or absolute in this division into painless and painful enlargement; it is justified by its clinical utility.

Painless enlargements are farther characterized by an absence of jaundice, and a very chronic course; but in painful enlargements jaundice is a very common symptom, and the progress is more rapid.

Among painless enlargements we have the so-called amyloid liver, the fatty liver, hydatid tumor of the liver, and simple hypertrophy.

Among enlargements in which pain is a prominent symptom we have congestion, catarrh of the bile-ducts, obstruction of the common duct and retention of bile, pyæmic abscesses, tropical abscess, and cancer. (p. 23.)

Here, then, we have on one page a lucid exposition and convenient, easily remembered, yet precise, synopsis of the clinical features of a large class of hepatic disorders, and we consider this as one of the master traits of the book,—a generalization bearing testimony to the author's eminent ability as a teacher. Before entering upon the subject of enlargements, the author renders account of the normal dimensions of the liver and the boundaries of hepatic dulness in health, introducing diagrams of the area of dulness in percussion (such as are in use by many eminent clinicists), which are more instructive than words; he next treats of the circumstances under which enlargement of the liver is simulated, and endeavors to lighten the difficulties of diagnosis in this respect. The same course is taken farther on in regard to spurious contractions, to conditions simulating jaundice, etc.

The enlargements are discussed in the order in which they are mentioned in the above extract, beginning with the waxy liver. After briefly stating the nature of the change, the characters by which it may be recognized are explained at length, and always with due reference to differential diagnosis. Then the rules of treatment are laid down,—short, practical, mostly the author's own, and a number of clinical histories of cases are offered in illustration.

In some instances, the author deviates from this general plan and enlarges in his remarks where he wishes to make a point. He devotes a comparatively large space to the treatment of *hydatid tumors*; he enters into a careful comparison of the advantages and the dangers of paracentesis, and finally insists on the propriety of puncturing the hydatid with a fine trocar and canula, in order to kill the parasite and avert the dangers to be apprehended from the growing cyst.

A careful consideration, then, of the whole matter—of the dangers of the disease when left alone, and of the inutility of medicines on the one hand, and of the success hitherto obtained from the operation on the other, leads to the practical conclusion that, in all cases where a hydatid tumor is large enough to be recognized during life and is increasing in size, it is advisable to puncture it at once. If the tumor appear to be

diminishing in size, it may be well to wait, but it is unnecessary to wait for the formation of adhesions, or to endeavor to induce them. An hydatid tumor is not prone to form adhesions over its outer surface, like an abscess. By the time that adhesions form in the natural way, the tumor has attained a large size, and is probably eating its way into some of the adjoining cavities; the chances are increased of its becoming inflamed and converted into an abscess; its walls are also much less elastic than at an earlier stage, and a puncture through them will close up less readily, so that there is a greater risk of fluid escaping into the peritoneum after removal of the canula, if the adhesions be not sufficient to prevent it. While the walls are still elastic, the opening made by a fine trocar may be expected to close immediately that the instrument is withdrawn, and the existence of adhesions is therefore unnecessary. . . .

When, however, the symptoms, or an exploratory puncture, show that the sac has undergone suppuration, a large permanent opening is the only justifiable mode of operating. The opening should be made with a large trocar, and a silver canula or india-rubber tube secured in the wound until the whole of the hydatid contents have come away. . . . Before operating in this way it will always be necessary to ascertain the existence of adhesions, and, if necessary, to produce them. . . .

Having related an unusually large number (18) of cases in illustration, the author closes this chapter with a table of 46 cases of hydatid tumor treated by the operation, as recommended:—a simple puncture with a fine trocar, and closure of the opening after evacuation of the fluid. In 35, the operation was entirely successful; in 10, it was followed by suppuration, necessitating a free opening, and resulted in the cure of 8, two deaths; in the last remaining case, death ensued eighteen hours after the operation, and the author doubts that it was proper to operate in this instance. Three of the cases in this table are reported by Dr. MURCHISON himself, twelve by MCGILLIVRAY, several by Sir BENJ. BRODIE (who is mentioned as the first operator), GREENHOW, BOINET, J. HUTCHINSON, LANGENBECK, ROBERT, DEMARQUAY, etc.

We come now to the enlargements attended with pain, viz., congestion of the liver, inflammation of the bile ducts, obstruction of the common duct and retention of bile, abscess, and cancer. The author insists on the distinction between “pyæmic abscesses” and “tropical abscess;” the former multiple and small, and occurring in temperate climates,—the latter mostly single, often large, and almost confined to persons who reside or have resided in the tropics. No mention is made of hepatic abscess following traumatic causes which operate directly on the liver, except the

faintest allusion to the possibility of its occurrence. Although we suppose that, in the main, the features of this affection coincide with that of the single or "tropical" abscess, we are struck with the omission.

The distinction drawn above between pyæmic and tropical abscess is far from being one merely of pathological curiosity; it has a most important bearing both on prognosis and treatment. The pyæmic abscess is much the more serious and fatal malady of the two; recovery from it rarely, if ever, occurs. The tropical abscess again is not unfrequently recovered from, and it may burst into the pleura, the lung, the peritoneum, the stomach, the bowel, or externally—accidents to which the pyæmic abscesses are not liable; and lastly, one of these natural modes of termination of the tropical abscess may be occasionally advantageously imitated by the surgeon, who evacuates the abscess by an external opening—a procedure which would obviously be worse than useless in the pyæmic abscess. It follows therefore that it is of considerable practical importance to be able to distinguish during life between the pyæmic and the tropical form of abscess.

Under treatment, the author alludes to the differences of professional opinion respecting the expediency of opening the abscess. Again weighing, before the reader,—as in the case of the hydatid tumor—the objections raised against the operation, and the dangers of non-interference, Dr. MURCHISON decides in favor of the measure:

After duly balancing, then, the dangers of operation against the dangers of expectancy, I do not hesitate to recommend to you the propriety of evacuating the pus in a large number of cases of tropical abscess of the liver. The operation may not be free from danger, but to wait in these cases upon Nature, as it is called, is to wait upon Death, and I would suggest for your guidance the following rules:—

*a.* In all cases where there is a visible fluctuating tumor, operate at once.

*b.* In cases where the symptoms of abscess of the liver are present, with a distinct tumor projecting from the normal contour of the liver, or causing bulging of the ribs, even though there be no perceptible fluctuation, it will be well to operate.

*c.* When symptoms of abscess coexist with uniform enlargement of the liver, but with no distinct tumor or bulging, if there be any local œdema, or obliteration of an intercostal space, or acute pain, always localized to one particular spot when the patient takes a full inspiration, it will be well to operate; but if there be no such œdema or obliteration or pain, it may be better to wait, as the enlargement may possibly be due to multiple abscesses, or if there be but one abscess, it is doubtful if it will be reached.

When there is distinct pointing with an inflammatory blush,



Dr. MURCHISON uses the bistoury, otherwise a small trocar. The existence of adhesions is regarded as the rule, their absence the very rare exception.

The seventh lecture treats of the "contractions" of the liver,—the diminution of the area of hepatic dulness. This condition characterizes three forms of disease: simple atrophy, acute or yellow atrophy, and chronic atrophy; under the latter head are included cirrhosis, simple induration, and "red atrophy." The author recognizes a "simple atrophy," it will be remarked, which we have not heretofore met with as a clinical entity, though mention is made of it by systematic writers on morbid anatomy (e. g., RINDFLEISCH). It is introduced in the present treatise less for practical importance, than because "ignorance of its nature and characters may lead to errors in diagnosis." It has been sometimes described as "senile atrophy," and is mainly owing to two causes, old age and inanition.

The group "chronic atrophy" has been established because a number of affections, though distinct in their anatomy and causation, "often present symptoms so similar that it may be impossible during life to distinguish them;" they are:—cirrhosis, or the gin-drinker's liver; atrophy resulting from hyperæmia from obstructed circulation in cardiac and pulmonary diseases; a form of atrophy similar to cirrhosis, but where the fibrous tissue is not increased (spurious cirrhosis); atrophy from frequent attacks of peri-hepatitis, or inflammation of the capsule (simple induration); finally, the "chronic atrophy" of FRERICH'S, or "red atrophy" of ROKITANSKY.

In all of these diseases there is one anatomical character in common, viz.,—a destruction to a greater or less extent of the minute branches of the portal vein in the interior of the liver. To this cause must be attributed the clinical symptoms in which during life they so closely resemble one another. The prominent symptoms in all of them are those of obstructed portal circulation.

In turning to the next lecture, on the symptom "jaundice," we arrive at what we consider the best and completest chapter of this excellent book. We were particularly interested by the author's remarks on the theory of jaundice, and by his mode of explaining those cases in which no obstruction to the escape of the bile can be detected. The question whether there is a "hæmatogenic" icterus is still undecided, notwithstanding the weighty arguments so frequently reiterated by redoubtable com-

batants on both sides. In 1795, Dr. WM. SAUNDERS stated the question, and his opinion on it, in the following words :

Hitherto the cause of jaundice has been referred to obstruction in some part or other of the biliary ducts. But there are some cases which incline us to believe that jaundice may exist, though the biliary canals are pervious and free.—The yellow fever of the West Indies furnishes an instance in point. . . . In this case, jaundice seems to depend upon a redundant secretion.

But *Boerhaave* and *Morgagni* have favoured an opinion the direct reverse of this. They consider jaundice, sometimes, as the effect of a suspended secretion, and suppose that the blood, in consequence of this, retains a bilious character, thereby giving a yellowness to the skin.

This opinion is founded on a mistaken notion, that all the secreted fluids pre-exist in the mass of the blood; and that the province of the different glands is confined to the mere mechanical separation of those fluids.—(SAUNDERS, *Treatise on the Structure, Economy, and Diseases of the Liver*. 2d edition. London, 1795.—pp. 84–86.)

In every case of jaundice bile must be secreted and carried into the blood vessels.—(*ibid.*, p. 87.)

And in explanation of the doubtful cases where no impediment is known to exist, he offers the following consideration :

Perhaps the quantity of bile which is secreted is so very considerable, that though the greatest part of it escapes into the primæ viæ, the whole may not readily find a passage; and the surcharge thus occasioned may give rise to regurgitation and absorption.—(p. 178.)

If the ductus communis does not transmit it as fast as it is secreted, and the gall-bladder is so full that it cannot receive the excess; then it will be forcibly returned upon the hepatic system, and by entering the blood vessels produce jaundice.—(p. 180.)

This *raisonnement* perhaps suffices to explain a certain number of cases; but still some instances of jaundice remain where the secretion of bile is evidently diminished, and there is no obvious obstruction. These latter cases evidently favor the assumption of a jaundice by suppression of the secretion of bile, especially since it has been shown beyond dispute that biliary pigment *can* be formed from the coloring matter of the blood even outside of the liver (though this does not prove, as VIRCHOW observes, that icterus also may arise from bile pigment which is not yet secreted). The number of these cases, however, is considerably reduced by more accurate means of investigation and closer attention to anatomical conditions. In his article\* on what he calls "hepatogenic icterus" (i. e., by obstruction), VIRCHOW

\* Virchow's Archiv, xxxii, p. 117, 1865.

maintains that many cases of real obstruction (especially in the intestinal portion) of the common duct have been overlooked. But even the discovery of this source of error does not, in our estimation, eliminate all the disputable cases.

Yet Dr. MURCHISON thinks it "very doubtful if any form of jaundice can with propriety be attributed to a suppression of the hepatic functions," and offers an explanation of those instances in which there is no impediment, to which we can not but attach considerable value. He says:

From what is now known of the diffusibility of fluids through animal membranes, it is impossible to conceive bile long in contact with the living membrane of the gall-bladder, bile-ducts, and intestine, without a portion of it (including the dissolved pigment) passing into the blood. A circulation is constantly taking place between the fluid contents of the bowel and the blood, the existence of which, till within the last few years, was quite unknown, and which even now is too little heeded. . . .

It is in the course of this osmotic circulation that the constituents of bile are taken up into the blood, becoming themselves probably transformed in the process. . . . Under normal conditions, the bile that is absorbed, is at once transformed, so that neither bile-acids nor bile-pigment can be discovered in the blood, and there is no jaundice. But in certain morbid states the absorbed bile does not undergo the normal metamorphoses, but circulates with the blood and stains the skin and other tissues.

This is a very likely hypothesis. But we can not help calling to mind the experience of Dr. LUDW. MEYER.\* An insane woman poisoned by phosphorus was severely jaundiced for seven days prior to death. The condition of the stools proved absence of bile from the intestinal canal for at least six days. That portion of the common duct passing obliquely through, and situated within, the walls of the abdomen was obstructed by a tough plug of mucus. But the duct itself, gall-bladder, and hepatic biliary tubes contained *no* bile, though the liver itself was icteric. Attentive anatomical and microscopical investigation nevertheless proved the continuance of the hepatic function, and, moreover, revealed a structural change quite sufficient to account for the jaundice, viz., an enormous degree of cell proliferation in the whole of the interlobular and interstitial connective tissue. The seat of this luxuriant cell-growth was also the seat of the impediment,—pressure upon the biliary tubes. As this is not the only case in which the structural change spoken of has been discovered, but the same appearances have been found previously (e. g., by

\* Virchow's *Archiv*, xxxiii, p. 296.

MANNKOPF, LIEBERMEISTER) and confirmed subsequently (by WYSS, et al.), we have in this fact the key to many of these cases which formerly seemed to compel the assumption of a hæmatogenic jaundice; and the certain demonstration of an impediment to the flow of bile, which is not evident to the unaided eye, also relieves us, in a great measure, of the necessity of having recourse to Dr. MURCHISON's hypothesis.\*

The remaining lectures (XI and XII) are devoted to the subjects of dropsy, especially that connected with disease of the liver, hepatic pain, gall stones, and enlargements of the gall bladder. Thus we follow the accomplished clinical teacher over the whole range of prominent symptoms of hepatic diseases; enlargement, contraction, jaundice, dropsy, and pain are in turn traced to the morbid conditions which cause them, and made available for intelligent and accurate diagnosis. "In all cases of disease presenting some prominent symptom,"—this is what Dr. MURCHISON

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\* We have referred to this subject more especially because we find that the author, in speaking of icterus in phosphorus poisoning (which he enumerates among that class independent of any obstruction of the bile-duct), makes mention of the extreme fatty degeneration of the liver, but (though quoting the article of WYSS in the *Archiv der Heilkunde*, 1867) takes no notice of the affection of the interstitial tissue. Yet the same author in 1865 (*Contrib. to the Anatomy of the Liver in Phosphorus Poisoning*, *Virchow's Archiv*, XXXIII, p. 439) had already given the following resume of his observations and those of other authors:

"Concerning the disease of the hepatic cells, I believe that in poisoning by phosphorus we must assume a fatty degeneration, and not a mere infiltration of fat, since it can not be disputed that in some places of the liver at least a real destruction, a disintegration of the hepatic cells does occur, whereas in simple fatty liver, according to FRERICH'S, the liver cells are never destroyed. According to what I have seen, however, I must believe that a person may die of phosphorous poisoning and even have a fatty liver, without any destruction of hepatic cells; in animals, particularly rabbits, the destruction of the cells is very frequently absent.

"Regarding the changes which occur in phosphorus poisoning in the connective tissue stroma of the liver, and which interest us especially, it may be assumed as certain that an alteration of the interlobular connective tissue takes place. In the adventitious coat of the branches of the portal vein, more or less numerous, small, round (lymphatic) cells are deposited, that sometimes accumulate in such numbers as to form neoplasms among the lobules, which sometimes attain the size of lobules, so that they can be perceived by the naked eye, and send processes in between the hepatic cells of neighboring lobules. But not only between the lobules are these neoplasms developed, but also in their interior; they arise between the periphery and centre of the lobules, among the rows of hepatic cells, and probably in the walls of the liver-cell-tubes. They gradually destroy a part of the lobule, and then occupy the place of the missing hepatic tissue."

And L. MEYER, already quoted above, says still more pointedly: "The bile abundantly secreted in the liver cells, in this case was demonstrable with certainty in the biliary canals of finest calibre; between these and the ducts still visible to the naked eye, therefore, the impediment to the farther progress of the bile must be situated. Now the region of biliary stasis is at the same time the seat of an inflammatory process, accompanied with luxuriant growth of connective tissue. Hence it may be justifiable to attribute the diffuse obstructive stasis and the consequent icterus to the diffuse hepatitis of phosphorous poisoning."—p. 305.

SON seeks to impress upon his listeners,—“you ought to ask yourselves two questions: 1, What are the different causes which may give rise to the symptom in question? and 2, Which is the most probable cause in the individual case before you? Not until you have given a satisfactory reply to these inquiries will you be in a position to speak with any confidence as to prognosis, or to adopt a rational method of treatment.”

Let us assure the student that the book before us is not only the best guide to the recognition and rational treatment of hepatic diseases, but that to the diligent reader it will prove an excellent instructor in diagnostic means and method in general. We feel sincerely grateful to Dr. MURCHISON.

G. B.

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*CRIMINAL ABORTION*; its Nature, its Evidence, and its Law. By HORATIO R. STORER, M.D., LL.B., Fellow of the American Academy of Arts and Sciences, and late Professor of Obstetrics and Medical Jurisprudence in Berkshire Medical College, and Franklin Fisk Heard. Boston: Little, Brown & Co. 1868. 8vo.

We are not in the habit of complimenting medical authors. Too many medical books, and especially practices of medicine, have been published already. We have had a notion for some years of writing a practice of medicine, but in good faith we now promise the profession never to carry said notion into effect. We are rather cynical when we see a new book, and are not disposed to have mercy on it.

But Dr. STORER's work is full of merit; it is a “desideratum.” To expose and protest against the crime of abortion required a fearless pen, and it has been well wielded by Dr. STORER. Few persons, except the perpetrators, are aware of the extent of the slaughter of the “innocents.” It is the *crying* evil of the times. The truth seems to be, that thousands of people, all over the world, do not think it any sin to kill a fœtus! They do not know any better! We were called on, a quarter of a century ago, to cause miscarriage about the eighth month, because, as the father said, he had to move to another State! Intelligent ladies even boast of getting rid of the products of conception, and laugh at the idea of there being any crime about it. It seems that the native population of Massachusetts is declining; and, according to Dr. STORER, only the foreign born population is increasing.

We quote, p. 41 : " In the State of Massachusetts at large, it is found of late years that the increase of population . . . has been wholly of those of recent foreign origin."

It seems that it has become unfashionable to have children, so they have to be killed! Do these people go to church? Of course they do. They are accounted pious, and give money to send the gospel to the heathen. What sort of religion is this, which, if it does not indorse, does not openly condemn infanticide, or fœticide, which is just as bad?

Dr. STORER goes on to say, p. 51 : " We have seen that the increase of the population of Massachusetts is almost exclusively among the resident foreigners, Catholics, the rules of whose church will hereafter be shown to exercise an important influence in preventing the destruction of human life." It perhaps should be stated that Dr. STORER is not a Catholic. We read some time ago a series of essays in the *Atlantic Monthly*, entitled our " Roman Catholic Brethren," in which the author says the Catholics confidently expect to convert the entire world; and we have read also, in the papers, generally, that they are in a fair way to convert China. Now all this may come to pass in a way which Dr. STORER seems to explain. The natural increase of population amongst Catholics, and its diminution amongst Protestants would go far, very far toward the conversion of the world in five hundred or a thousand years.

The chapters on the laws of various nations and states in regard to abortion, furnished by Mr. HEARD, concludes the work which is here briefly noticed.

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*CONSERVATIVE SURGERY* in its General and Successful Adaptation in Cases of Severe Traumatic Injuries of the Limbs, with a Report of Cases. By ALBERT G. WALTER, M.D. Pittsburgh, Pa. 1867. 8vo., pp. 213.

Lessons in conservative surgery are so important, that they can not be too constantly inculcated. The author of the volume before us displays much enthusiasm in this particular department, and with him all good surgeons must join their heartiest approbation and co-operation. We protest, however, that Dr. W. does great injustice to surgery in the following paragraph :

" Closing the lacerated structures by stitches, and after applying cold or iced dressings to the injured tissues, regardless of

proper dietetic and hygienic measures, and of the strictest attention to cleanliness in the material of dressings,—that such a practice with the majority of surgeons has been the rule, is but too true.”

Let the reader refer to any elementary work on surgery, and he will find that it is not usual to stitch lacerated wounds—bad surgery. The surfaces of such injuries are dead, and must necessarily slough; such wounds inflame and suppurate; all enemies to union. It would simply be absurd to close such wounds. After inflammation has subsided, and the surfaces become clean and granulating, the good surgeon encourages union by gently approximating the growing parts by position, adhesive strips, and methodical bandaging.

The great merit of the book, in the estimation of its author, is the recommendation of free incisions in the treatment of contused and lacerated wounds. The cutting to be done in the longitudinal direction, of course, for it would certainly be bad practice to cross nerves, vessels, and muscles. Surgery “abhors” tension, and the rule to relieve by free incision is immutable; but the propriety of dividing textures in anticipation of pressure is questionable,—conservatism gone mad. He writes:

“By enlarging the wound, or if no breach of surface exists, by incising the limb in its whole length freely and deeply through all the injured tissues, tension ceases, free and easy escape of blood and serum follows; decomposition of the same, with its baneful results is prevented.” “Free, deep, and early incisions are, I aver, the only measures deserving of the name conservative in injuries of this character. Next to them warmth, by warm water dressings, by poultices promptly and assiduously applied.”

Dr. W. ignores all the advantages claimed for subcutaneous surgery: He says:

“I feel disposed to contend that pure and respirable atmospheric air, one of the greatest bounties of nature, *can not be deleterious to wounds.*”

Now this is an old idea—see SAMUEL COOPER’S First Lines of Surgery—a most pernicious idea, but so obviously irreconcilable with the experience of all practical surgeons, as probably not to result in harm.

The book embodies many interesting cases which may be read with profit. Perhaps some limbs may be saved thereby. If so, the author will be amply paid for his labor. E. H. G.

**OUTLINES OF PHYSIOLOGY.** Human and Comparative. By JOHN MARSHALL, F.R.S., Professor of Surgery in University College, London, etc. With additions by FRANCIS G. SMITH, M.D., Professor of Institutes of Medicine in the University of Pennsylvania. Illustrated by numerous wood-cuts. Philadelphia: Henry C. Lea. 1868. 8vo., pp. 1026. Price, \$7 50.

[For sale by Frary, Cowan & Krath, Booksellers, 219 North Fifth Street.]

Mr. MARSHALL's book first appeared in London in 1867. It was intended for the use of students, presenting to them the science of physiology as developed at the date of publication. We learn from the preface that the author projected his book upon a more limited scale, but the work grew upon his hands until, in the course of several years, it attained its present dimensions.

The scheme of the work is very comprehensive, laying broadly the foundations of a knowledge of physiology, and trenching upon the domain of many other sciences. Thus it commences with a general view of the anatomy of the body, pursuing it to the microscopic structure of its tissues, their physical properties, and chemical composition.

Taking up next the vital properties of the tissues, the author enters upon general physiology, treating however not only of the animal functions, but giving outlines of the animal and vegetable kingdoms, and the relations of man to them and to the inorganic kingdom.

The consideration of muscular contractility and ciliary motion is preliminary to the sections on the movements of man and animals, which are elaborated with unusual care, and are calculated to stimulate observation and a love for comparative physiology. Locomotion, prehension, and the production of sound in man and the lower animals, are carefully analyzed, and their mechanics and analogies investigated.

As a specimen we give an extract (p. 179) from his account of the locomotion of quadrupeds:

In the act of *walking*, a quadruped first moves forward one fore-leg, and then the opposite hind-leg; next the other fore-leg is advanced, and then the opposite hind-leg, and so on; these several movements being perfectly distinguishable, and following in regular sequence, however rapidly the animal may walk. The centre of gravity not only moves forward, but rises and falls, and moves obliquely from side to side, according as the one or the other fore-foot is being advanced; moreover, one foot only is off the ground at the same moment, the advancing fore-foot



always being placed down before the opposite hind-foot is raised, and the latter being placed down before the opposite fore-foot is raised. In *trotting*, the fore and hind limbs of the opposite sides are advanced simultaneously, and they are raised from the ground and placed upon it again also simultaneously, so that the centre of gravity is supported alternately upon the right fore-leg and left hind-leg, and then upon the left fore-leg and right hind-leg; and in this movement there is much less lateral oscillation—indeed scarcely any at all—in comparison with the walking movement, as the rider on horseback practically knows. In *galloping*, both fore-legs are lifted from the ground almost simultaneously, and the body of the animal is projected upwards and forwards by the extension of both hind-legs; the weight of the body then descending is received on both fore-legs, which are brought to the ground again almost at the same instant of time, when the hind-legs are once more brought under the body, and placed almost simultaneously upon the ground, so as to be ready for the performance of another spring. *Cantering* is a sort of a slow, measured gallop, in which a longer interval of time elapses between the placing of the two fore-legs and the two hind-legs upon the ground. In the canter, one or other pair of legs only is raised from the ground at any one instant, so that the body of the animal is always supported by one or other pair of limbs; but in the gallop there is a period, short in the slow gallop, but more and more prolonged in the rapid gallop, as in the active strides of the race-horse, when all four limbs are off the ground, and the animal is swinging in the air.

The reader will find the flying of birds, the swimming of fishes, and the movements of reptiles, in all their varieties, given with great care, some space being devoted even to expression and gesture in the lower animals. In fact this subject is probably more fully treated here than in any other general work on physiology.

But while this subject has received unusual attention, the others have not been slighted, and the author has endeavored to embody in his work the results of the labors of the best and most recent authorities in the medical and scientific world, while under each head valuable information and illustrations from comparative physiology are liberally and interestingly given.

We doubt if there is in the English language any compend of physiology more useful to the student than this work.

Dr. SMITH's additions are comparatively few, but his name will vouch for the merit of the book to the many persons in this country who know him favorably, and are unacquainted with Mr. MARSHALL's attainments and scientific standing.

C. E. B.

*RETINITIS NYCTALOPICA.* By Prof. Dr. ARLT of Vienna (from "Bericht über die Augenlinik"). Translated, with consent of the author, by J. F. WEIGHTMAN, M.D. Philadelphia: Lindsay & Blakiston. 1868. 12mo., pp. 23.

A most valuable contribution to ophthalmology by one of the most eminent of modern ophthalmic practitioners. In this short paper Prof. ARLT has demonstrated a new form of Retinitis as well marked as R. syphilitica, or the Retinitis dependent on Bright's disease, but with this difference, that in the latter disease the ophthalmoscope reveals conspicuous structural changes in the retina, while in R. nyctalopica we have to rely for diagnosis chiefly upon the study of the symptoms. We have not felt able to do justice to the work in a mere notice, so have transferred some of the most important portions of it to our "extracts from current medical literature."

J. G.

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*A TREATISE ON THE PRINCIPLES AND PRACTICE OF MEDICINE;* Designed for the Use of Practitioners and Students of Medicine. By AUSTIN FLINT, M.D., Prof. of the Princ. and Pract. of Med., in the Bellevue Hosp. Med. College, etc., etc. 3d edition, thoroughly revised. Philadelphia: Henry C. Lea. 1868. 8vo., pp. 1002. Price, \$7 50.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

Prof. FLINT's Practice has been well received by the medical press, practitioners, and students, and attained its third edition in less than three years from the date of its first issue. This statement is the very best we can say of it; it alone will be sufficient recommendation to those who deem success the proof of real merit.

We confess our inability to fathom the secret of its success, and can not join the chorus of admiring critics. The work is not equal to Dr. FLINT's previous performances. In language, force of description, and that indescribable power of making an impression on the mind and memory of the reader, which is essential to educational treatises, it is much inferior to some of those classical works now beginning to be considered of the past, the chief place among which is generally accorded to WATSON's Lectures. Notwithstanding the advanced views of the author, which it affords us pleasure to note, there are signs of superficiality and negligence even in this "thoroughly" revised edition.

It would be easy to overlook these minor deficiencies; but the peculiarly indefinite language in which some of the author's views are couched (concealed we might justly say), and the non-committal tendency and guarded language which prevail, make them unusually conspicuous. The desire to avoid the discussion of mooted questions, very proper in a textbook, should not have interfered with the decided expression of the author's own opinion, which above all other things is what the student needs. We must add, however, that this indefiniteness is less apparent in the special part.

In illustration, we will allude to a single point. The subject of Inflammation, *not mentioned* in the part which is headed "Principles of Medicine or General Pathology," is dispatched in one page and a half of uncertainties under the head of "Acute Pleuritis." Treating as he does of a thousand and one inflammations, the author furnishes his readers with this flimsy basis, and refers him for the details to works on Surgery, forsooth. A few sentences will show the nature of that basis:

The sensible changes which first occur in an inflamed part are incident to hyperæmia, or a morbid accumulation of blood in the part. Hence arise redness, heat, pain, and swelling, the four characters which have heretofore entered into the definition of inflammation. The accumulation of blood is a result of an undue determination of blood to the part; in other words, the part receives a larger amount of arterial blood than in health. There is also a retardation of the circulation through the inflamed part. So far, the condition is expressed to the term active congestion, called by VIRCHOW fluxion.—(p. 142.)

What idea can a student gather from such a description? A morbid accumulation of blood results from an undue determination of blood; there is also a retardation of the circulation somehow connected with it; this is active congestion!\* From this specimen of superficiality we proceed to a specimen of diffuse language found in the very next sentences:

If the affection should go no further, there would hardly be sufficient evidence that inflammation has become developed, or it might be considered as incipient inflammation disappearing by delitescence. But

\* On page 198, we read the words: "This is distinguished as passive congestion or stasis." Is it possible that Dr. FLINT should mean this? Stasis is not congestion, either active or passive; that cessation of the blood current usually and chiefly designated by this name is the consequence of "active congestion," or of the cause to which the active congestion is due. In the cauterized web of the frog's foot, or COHNHEIM'S exposed mesentery of the frog, everybody calls the hyperæmia preceding inflammation "active;" but, if the irritation be sufficient, it will soon lead to stasis; yet there are no conditions present to induce "passive" congestion.

inflammation rarely ceases at this incipient period. A variety of local events may follow, some of which always occur, different cases presenting very wide differences, arising from the presence of some of the events and the absence of others. Etc.

Then follows a small list of events that "*may* follow" without any indication of those which "*always* occur,—"*waiving consideration*" of which, the author throws upon the physiologist the blame of not being able to explain the nature of inflammation, and concludes with a definition quite in keeping with the character of the passages quoted.

The special part is comprehensive in scope, and reflects the most recent views and discoveries, and for a time at least, it is likely Dr. FLINT's work will remain the standard textbook for the student.

G. B.

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*ATLAS OF VENEREAL DISEASES.* By A. CULLERIER, Surgeon to the Hôpital du Midi, etc., etc. Translated from the French, with Notes and Additions, by FREEMAN J. BUMSTEAD, M.D., Prof. of Venereal Diseases, Coll. Phys. and Surg., N. Y., etc. With about 150 beautifully colored figures on 26 plates. Philad: Henry C. Lea. 1858. 4to., pp. xii, 328. Price, \$15 00.

[For sale by the St. Louis Book and News Co., and by Frary, Cowan & Krath.]

The American edition of the great work of CULLERIER has been completed, and we take this opportunity to reiterate the good opinion before expressed when commenting on parts I—III (vol. v, N. S., p. 243). Prof. BUMSTEAD has not only furnished a masterly translation, but introduced very material and necessary improvements. His supervision of the artistic part of the work must have been an arduous and difficult task, for the result is far above the average of similar performances. The two last parts contain a few figures which, to our eye, better represent the affections portrayed in them, than the original figures which we have taken pains to compare, and not many fall below the standard of the French plates, so that this atlas must be regarded as a triumph of American chromo-lithography as applied to the illustration of medical objects, and will, we hope, serve as a pioneer.

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**THE MEDICAL FORMULARY:** being a Collection of Prescriptions, etc., etc. By BENJAMIN ELLIS, M.D. 12th edition, carefully revised and much improved. By ALBERT H. SMITH, M.D. Philadelphia: Henry C. Lea. 1868. 8vo., pp. 374. Price, \$3 00.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

In the present twelfth edition, a number of less valuable formulæ have been omitted to make room for others more in accord with the present status of therapeutics. Due attention has been given to the more recent practices of the inhalation of atomized fluids, hypodermic medication, anæsthesia, the local therapeutics of the nose and ear, etc., and an index of diseases has been added. These improvements will be appreciated by the medical public.

An especially commendable feature of this book is its great freedom from dog Latin and its correctness of language. In a superficial perusal we met with only two trivial mistakes (Nos. 950, 1,005). It is evident that the revision for this edition has been performed with scrupulous care.

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**PHYSICIANS' MEDICAL COMPEND** and Pharmaceutical Formulæ, compiled by EDWARD H. HANCE. Philadelphia: published by Hance, Griffith & Co. 1868. Pp. 214, pocketbook form, with tuck.

This advertising medium of the fluid extracts prepared by the house of Hance, Griffith & Co., presents formulæ for diluting these preparations to the exact strength of the articles prescribed in the U. S. Pharmacopœia. Such formulæ are useful to the physician who has a knowledge of and preference for the fluid extracts of this particular firm; but it is to be hoped that druggists will not misuse them, or be induced in any way to deviate from the directions of the Pharmacopœia in preparing their tinctures, decoctions, infusions, etc.

There seems to be no very good reason for the pocketbook form, as no physician is likely to burden his pocket with such information. The shocking mixture of Latin and English without regard to grammar is sufficient to stamp the book as unscientific; and what might have passed without objections as a trade circular, has been spoiled by its pretentious additions.

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## Extracts from Current Medical Literature.

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### ANATOMY AND PHYSIOLOGY.

1. *Contribution to the Histology of the Blood.* By Prof. C. J. EBERTH, Zürich.

[*Virchow's Archiv*, XLIII, p. 8, 1868.]

In examining the blood of a woman suffering from an indurated tumor of the spleen, Prof. EBERTH found not only a very considerable increase of the colorless corpuscles, but also a great number of red nucleated elements. The blood was but half coagulated, and of a grayish red color.

Many of the colorless cells had nearly double the normal diameter. The nucleus, mostly single, was sometimes central, and occupied the greater part of the protoplasm which surrounded it in the shape of a narrow ring, in other cases it was more peripheric. A great part of the larger cells contained either one lobulated nucleus, or from three to six smaller ones. The majority of these cells was round, some slightly nodulated.

A large number of the red corpuscles was characterized not only by a somewhat larger diameter, but also by their distinctly globular form.

Round, nucleated, colored cells formed a true transition from the colorless to the red corpuscles. Most of these formations were as large as normal colorless corpuscles, the smallest were but little larger than the colored blood cells. Protoplasm and nucleus in the majority appeared homogeneous, the color often a little lighter than normal, and of a slightly greenish tint.

Besides the forms described there were not rarely found cells with single or multiple nuclei, whose finely granulated protoplasm was surrounded by a narrow, crescentic, light-colored zone, or a narrow ring of hæmoglobin. This narrow zone advanced more and more toward the centre, until finally the whole protoplasm, which in the meantime had lost its fine

granulation more and more, appeared colored, the nucleus excepted.

Among both of these forms of colored cells not a few were found which differed from those described by the homogeneous appearance of the nuclei. Many of these nuclei even want the former sharp outlines, they are more lustrous, of a light bluish shine, and look more like light spots in the colored protoplasma.

Though it was easy to connect the first described forms into a genetic series, E. was less fortunate in finding the connecting links between the last mentioned and the non-nucleated colorless blood cells. He thought it remarkable, however, that notwithstanding the large number of colorless and colored, large multi-nuclear cells, divisions of the same were nowhere observed with certainty.

Prof. E. is certain that these phenomena were not due to cadaveric change.

2. *Researches on the Nerves of the Neurilemma, or Nervi nervorum.* By M. C. SAPPEY.

[*Quart. Jour. Microscop. Science*, April, 1868, p. 100; from *Journal de l'Anatomie*, January, 1868.]

The neurilemma receives nerve-fibres which are to the nerves what the *vasa vasorum* are to the vessels, whence the name of *nervi nervorum*, under which M. SAPPEY proposes to describe them. Their existence in the fibrous coat of the nerves had not yet been pointed out; it is constant, nevertheless, and can be easily demonstrated. The disposition which the *nervi nervorum* take in the neurilemma differs little, however, from that which the nervous ramifications in the other dependencies of the fibrous system present. Like these, they follow in general the arteries: like these also, they anastomose freely. It is not only in the common or principal sheath that one meets them, but also on those which surround the principal fasciculi, and the tertiary fasciculi. M. SAPPEY has also followed them on to the sheaths of the secondary fasciculi. But, in proportion as the calibre of the sheath diminishes, they become more delicate and fewer. One never sees them extending on to the envelope of the primitive fasciculi [an envelope which is quite different from the preceding and which has been studied by M. CH. ROBIN, under the name of perinèvre (*Comptes Rendus*, 1854)]. The absence of the *nervi nervorum* on the sheath of the primitive fasciculi explains to us their absence from certain large nerve-branches. The tubes which compose them are remarkable for their extreme tenuity. Each of them, however, is composed of an envelope, of a medullary layer and of a cylinder axis. The optic nerve possesses two fibrous envelopes: 1st. A very thick external envelope,

which extends from the optic tract to the globe of the eye, and which constitutes for this last organ a sort of ligament; 2d. An internal envelope which is very fine, and from which septa are given, which dividing, and subdividing, and uniting one with another, form longitudinal canals, all of about the same diameter. This second envelope, which has the same relation to the optic nerve as has the neurilemma to other nerves, receives not the smallest nervous twig. The external envelope, on the other hand, receives a great number which take their origin from the ciliary nerves. These *nervi nervorum* of the external sheath run at first in the superficial layers, where they form an irregular plexus, and send off a few branches to deeper layers. The external sheath of the optic nerves, so rich in *nervi-nervorum*, is remarkable also for the abundance of the elastic fibres, which enter into its formation. It was formerly very erroneously considered as a uniting link between the dura mater and the sclerotic. It differs, however, from both: 1st. By its elastic fibres which are deficient in both; 2d. By its *nervi nervorum*, which are of an extreme rarity in the cranial dura mater, and of which no vestige is seen in the sclerotic. The anatomical analysis, therefore, far from confirming the analogy which so many anatomists believed to exist, attests that this part on the contrary is distinguished from the two membranes with which it is continuous by characters which are peculiar to it.

### 3. *Chemical Explanation of the Electrical Currents in Muscles.* (Dr. L. HERMANN.)

[*London Lancet*, November, 1868.]

It is well known that, under ordinary conditions, a current of electricity passes from the natural or artificial longitudinal surface of a muscle to its natural or artificial transverse section. Various causes have been assigned for this by DUBOIS-REYMOND, Dr. RADCLIFFE, and others. In a paper published towards the close of last year, M. L. HERMANN breaks new ground, and maintains that the phenomena observed have a chemical origin. Previous researches had already led him to the conviction that in the act of muscular contraction, as well as in the peculiar condition of post-mortem rigidity, changes identical in their nature, resulting in the disintegration or splitting up of some complex substance previously present in the muscle into lactic or carbonic acid and myosin, take place. Precisely similar changes, only far more gradual, he believes, occur throughout life, even when muscle is in the state of so-called rest; but their activity is immediately accelerated by the application of any stimulus to the muscle; and if the disintegration be continuous, without coetaneous and corresponding synthetic processes tending to the restitution of the muscular substance, tetanus or rigor mortis must ensue. In the act of making a transverse section of a muscle a violent mechanical stimulus is applied, which causes its most superficial layer to be destroyed and to pass into a tetanic condition. By the same act the ordinarily slow processes of disintegration taking place during life are materially acceler-



ated in a number of layers of the muscle lying successively more and more distinct from the surface of the section. But it is highly probable that the disintegrating processes, after attaining a certain degree of intensity in any single layer, progresses afterwards more and more slowly till complete tetanus or stiffening occurs. Hence, after the lapse of a short time, the layer undergoing most active change will not be the exposed surface of the section, but some layer situated more or less deeply. On theoretical grounds, M. HERMANN thinks it probable that those parts of the muscle which are undergoing active disintegration behave themselves negatively to those which are undergoing the same changes more slowly; and he furnishes various proofs that, by accelerating the chemical changes, any chosen part of a muscle may be made strongly electro-negative to the rest. One mode by which the acceleration may be induced is the exposure of a portion of a muscle to a temperature of 100 degs. F., the remainder being kept at 60 degs. F. The former will invariably be found to be electro-negative to the latter. M. HERMANN shows also that in a fermenting fluid an electrical current can be made evident, passing from the substance undergoing fermentation towards the former. This he has ingeniously made apparent by constructing one of the poles of a galvanometer of a piece of cheese and immersing it in a solution of milk-sugar, in which the other pole, made of an indifferent substance, was also plunged. In this instance it will be observed decomposition of a complex substance (milk-sugar) takes place under the operation of a ferment (cheese); one of the results being an acid (lactic acid)—conditions which are essentially analogous to those occurring in the splitting up of muscular and nervous tissue that are constantly taking place both in life and after death. Moreover, it may be shown that of two layers of muscular substance in juxta-position to one another, that one which is undergoing disintegration more rapidly than the other, and which therefore acts upon the latter as a ferment, will be electro-negative to such more slowly decomposing layer, and, it is important to observe, more energetically so in proportion to the activity of the changes taking place in it. Hence it follows that the surface of the transverse section of a muscle, which, owing to the mechanical irritation to which it has been subjected, and to the action of the oxygen of the air, is undergoing disintegration with the maximum of rapidity, will necessarily be negative to every other part of the muscle, but especially to the natural longitudinal section that is well protected by its investments of perimysium and sarcolemma. This mode of explaining the phenomena observed seems to have an important bearing on the theory of electrotonus, to which we intend to refer on a future occasion.

## MEDICAL PRACTICE AND THERAPEUTICS.

1. *Treatment of Chronic Nasal Catarrh.* By J. G. PINKHAM, M.D., Lynn, Mass.

[*Boston Med. and Surg. Journal*, Nov. 19, 1868.]

Having related the history of a case of twelve years' standing successfully treated with a douche of warm water and common salt alone, the author adds the following remarks :

Chronic nasal catarrh, or *ozæna*, as it is sometimes called, when ulceration has taken place, or the discharges are offensive in odor, may be justly reckoned among the *opprobria medicorum*. Its treatment is largely given up to empirics by practitioners of the regular school. Few sufferers from a long-continued "cold in the head" apply to their family physician for relief. If they do so, they are put off with a simple snuff, doubtless intended more as a placebo than anything else. They may even be met with a refusal to treat the case, or a statement that nothing is required to be done. The patient, annoyed almost beyond endurance by the disgusting complaint, resorts to some one of the ten thousand quack specialists that infest the country, sometimes to his advantage, at other times only to the detriment of nose and pocket. We can not blame him for taking this course. His physician promises him nothing, the empiric everything: his physician underrates his sufferings and the importance of the disease; the empiric overrates both, and works upon his fears by portraying in terrible colors the consequences of neglect or mal-treatment. The profession itself, by its apathy, is, to some extent, responsible for the large amount of patronage which quacks receive. The causes of this apathy are two-fold. In the first place, the disease is not one which places the patient in any immediate danger, or which prevents him from performing the active duties of life: hence the doctor's energies are not aroused; he does not study the case as he does those of a more severe and dangerous character. He thinks the catarrh of little consequence. Some of its results he reckons as distinct diseases, others he attributes to a wrong source. Catarrhal deafness he leaves to the aurist. Frontal headache arises from "biliousness" and calls for calomel or blue pill. Ulceration is an *ozæna*. Abscess of the antrum, caries, and polypus are diseases in themselves. Neither of these can be despised, but the common parent of them all, and of many other troublesome affections, is a trivial affair not worthy his attention.

In the second place, the disease is a very obstinate one, and often resists the ordinary measures for treatment for years. There are few inducements to enter a contest with no hope, or but a feeble hope, of victory. And so Dr. Q. gets the case. But now that the old methods of treatment have been superseded by new and better ones, it may be confidently asserted that the disease is not incurable, even when of long standing.

The case reported is to the point. The nasal douche affords the means of medicating completely the whole of the irregular and otherwise inaccessible surface of the nasal cavities. But as the condition to be alleviated varies, much discrimination is necessary with regard to the nature and strength of remedial solutions employed and the frequency of their application. Many who have tried the douche have been disappointed in the result. They have failed because they have not been careful enough in making a diagnosis, or because they have not persisted sufficiently long in the treatment. A chronic disease needs, as a rule, long-continued treatment. The case reported is typical of a large class, and similar treatment would, in a majority of cases, be successful. Nothing is required but to keep the nasal membrane clean by means of the douche. The common salt is added simply because it has been found by experience that weak brine is less irritant to the healthy portions of the membrane than pure water. The douche should be blood-warm, instead of hot or cold, for a similar reason.

The apparatus, such as I have described above, can be procured for less than fifty cents, and the patient can be easily taught how to use it himself. There is little or no expense to be incurred for medicines. With means like these at his disposal, the physician is certainly culpable who allows a case of chronic nasal catarrh to go without treatment from his hands to those of the quack, thus giving occasion for the enemies of our profession to blaspheme.

The question is often asked by patients, Has "catarrh" any tendency to eventuate in consumption? The specialist says "Yes, a neglected cold in the head may result in consumption." The physician says "No! You are, if anything, less liable to the dreaded malady." Which is right? It seems to me that, in the light of the recent theories upon the nature and origin of pulmonary phthisis, the empiric may have a grain of reason on his side. Persons with chronic nasal catarrh are very liable to exacerbations of their trouble, especially under the influence of those causes which produce the acute affection in healthy subjects. These exacerbations are nothing more nor less than the supervention of the acute malady upon the chronic. The acute affection may extend into the bronchial tubes, producing a bronchitis, which may become chronic. Chronic bronchitis may result in death, with symptoms similar to those of phthisis; or it may give rise to a form of true phthisis; or it may be the exciting cause of a tubercular deposit in persons of a tubercular diathesis.

I by no means affirm that these views are correct, but they have advocates and are worthy of attention. Should they ever prove true, it would not be the first time that our profession has received instruction from despised sources. We are, perhaps, too prone to condemn theories and modes of treatment simply because they have been abused by charlatans. Such a course may be very natural, but it is unwise, and opposed in spirit to that high philanthropy which would make everything else subordinate to the interests of our patients.

2. *On Inhalation in Diseases of the Throat.* By HERMANN BEIGEL, M.D., M.R.C.P., Physician to the Metropolitan Free Hospital, London.

[*The Practitioner*, Aug., 1868, p. 94.]

We reproduce the admirable summary of inhalation therapeutics contained in the article of the above title. Having expressed his preference for the hand-ball atomizer with the tubes suggested by Prof. WINTRICH, made of *vulcanite*, because less liable to be broken than glass, and equally unaffected by corrosive liquids,—the author continues :

The substances employed in the treatment of inflammatory affections of the throat are astringents and caustics—viz., tannin (in solutions containing from 2 to 10 grs. to the fluid ounce), sulphate of zinc (of the same strength), perchloride of iron (5 to 15℥ to 1 fl oz.), and nitrate of silver (1-2 to 5 grs. to 1 fl. oz.). In simple catarrhal diseases inhalations of turpentine, and more especially of the vapor of chloride of ammonium,\* are of great service. The latter mode of treatment has rendered me great service in those cases in which an inflammatory state of the vocal chords, or the mucous membrane lining the larynx, has caused partial or total loss of voice in such persons as are obliged to use their organs of voice and speech to an inordinate degree, as clergymen, singers, actors, etc. At the end of last year a clergyman was sent to me whose voice was not only hoarse, but became entirely inaudible at each attempt to raise it to a high pitch for any length of time; the laryngoscope examination showed nothing but an inflammatory state of the vocal chords and the lining membrane of the larynx; much mucus was secreted, and a constant tickling felt in the throat, which gave rise to an uninterrupted cough. After many remedies had been employed and the local application of astringent solutions had failed, I advised inhalation of the chloride of ammonium, which after four weeks restored the voice to its full strength and vigor, and enabled the patient to perform his duties, which he had been unable to do for many years.

With regard to the different application of caustics and astringents in these cases, the following general indications may prove useful. We very often meet with cases in which the amount of irritation does not seem to be in proportion to the intensity of the inflammation. This is particularly the case where the disease is of long standing, and when the inconvenience caused is rather distressing than painful: a small amount of mucus is secreted, which is of a viscid character, and can only be expectorated with difficulty, thus producing a constant cough, which is increased by every attempt to speak or sing. Such cases do not bear astringent applications, under the employment of which the symptoms generally increase. The reason of this is obvious: the mucous mem-

\* See paper by the author on this subject in *Lancet*, vol. ii, 1867, p. 512.

brane being chronically inflamed, and its nerves in a state of constant irritation, a state of irritability is established, which by the local application of a stimulant is merely increased, whilst a solution of caustic, by destroying this chronic irritability and altering the nature of the inflammation, gives as it were a new vitality to the relaxed organ.

The same may be said of the opposite state of acute inflammation of the pharynx and larynx: here the irritation exists in a very high degree, and, unless some strong caustic agent be applied, no improvement can be effected; astringents, as well as weak solutions of caustic, adding merely to the irritable state without being able to arrest its progress. This is simply the same principle upon which the abortive treatment of inflammations of other mucous membranes is practiced, as in conjunctivitis or in the case of the urethra in gonorrhœa. I could refer to a large number of cases supporting this view, which in private practice, as well as in the hospital, have come under my notice.

The so-called ulcerated throat is very often not so painful to the patient as it is disagreeable to his friends from the fœtid character of his breath; and it is generally this symptom for which, in private practice, the practitioner is consulted by patients, who usually attribute the cause to the stomach or the lungs. This error may, moreover, be easily committed by the medical adviser if the patient be not carefully submitted to thorough laryngoscopic examination. I have myself known a lady who had been treated for some considerable time for disease of the lung, the only symptom present being a very unpleasantly fœtid condition of the breath, together with a slight cough; her friends were naturally much alarmed, but on careful examination I could detect no sign of any disease of her respiratory organs. I found, however, that several ulcers had existed in the posterior wall of the pharynx, which secreted freely, and thus gave rise to the fœtor described. Repeated applications of a solution of chloride of lime in an atomized state produced a more healthy condition, and at the same time destroyed the smell; the ulcers healed rapidly. Such ulcers often can not be so easily detected as in this case, either from their position, or from the smallness of their size. When on the upper surface of the soft palate or within the arches of the fauces, close inspection is necessary for their detection, and no application is so convenient as that of the medicated spray. Such cases of long-standing inflammation, accompanied by ulceration and the production of mucus, are particularly well suited for treatment by astringent solutions applied in this manner. Some cases of obstinate ulceration of the throat, accompanied by fœtor of the breath, which do not yield to other treatment, may prove manageable when treated with inhalations of carbolic acid. This remedy may either be employed as spray, fifteen minims of the concentrated acid being added to one ounce of water, or by inhalation, for which purpose the inhaler which I introduced for inhalations of oxygen, and which is sold by Robbins, of Oxford street, is well adapted.

In croup I combine, wherever it is possible, as I do in other diseases of the organs of respiration, internal treatment with inhalations, or apply them alternately as the case may be; but very soon the little patients are

either unfit or unwilling to swallow, and sometimes persist in their refusal very obstinately; here atomized fluids and vapors therefore are of particular value for two reasons: firstly, because some children who refuse medicine, look at the atomizer as a kind of toy, and willingly submit to its action; secondly, because there is no difficulty, in case of need, in forcing a child to expose his pharynx and larynx to the action of the remedy, as the very act of screaming is very favorable to the entrance of the spray into the air passages. The remedies employed by different physicians are the following:—

1. Bromide of potassium was first used in the atomized state in this disease by Dr. SCHNITZLER. In one of his cases, a boy, three years of age, was severely attacked, and his breathing became difficult in the extreme; in order to gain at least some momentary relief, large doses of tartar emetic were given without producing vomiting, and inhalation was merely tried as a last resource; a solution of bromide of potassium, five grains to the ounce, was applied in the form of spray, and its use was followed almost immediately by the expulsion of shreds of false membrane. The breathing became easier, without stertor; the child felt relief for two hours, when it relapsed to its former condition. It was subsequently relieved five times under the same circumstances; and although the relief felt was considerable, the progress of the disease could not be arrested at this stage. In other instances the same drug (ten grains to the ounce) was employed with success. I have myself tried this remedy at an early stage of this disease, and found the symptoms arrested.

2. Tannin has been strongly recommended, both in croup and diphtheritis, by BARTHEZ and TROUSSEAU. The solution applied contained five percent of tannin: each inhalation lasting from fifteen to twenty minutes. After several repetitions of this, large pieces of false membrane were ejected, and the breathing relieved. In some of these cases the voice was very hoarse, nearly inaudible, but was restored in consequence of the application of the atomizer. These authors state particularly that no difficulty was experienced in applying the spray.

3. Lime-water has been found useful by many authors, who attribute to the agent the power of dissolving the pseudo-membranes, both of croup and diphtheria; in the latter disease it has found a strong advocate in Dr. GEIGER of Philadelphia. In croup I was myself enabled to try it in several cases, in one of which it relieved the child in the course of twelve hours after other inhalations had been employed without producing any marked improvement. Prof. BIERMER speaks likewise strongly in favor of this remedy. It is used in the proportion of one part to thirty parts of water, each inhalation lasting about a quarter of an hour, and to be repeated every two hours as long as bad symptoms are present.

4. Watery vapor has been recommended by MACINTOSH for croup as well as for bronchitis. The same has been used by BUDD, who combined it with the administration of emetics.

5. Oxygen has been recommended by Dr. MIQUEL. His patient was a little boy, twenty-one months old, who was suffering from croup: respiration abrupt, stertorous, whistling, and irregular, numbering forty

times in the minute; pulse small, very frequent, so as not to be counted; face and lips livid; the child's expression anxious; the patient was so exhausted as scarcely to be able to cough, and when he did so it was with a low barking voice. A large number of remedies were employed without success, while the administration of oxygen restored the child to health.

On reviewing these different remedies, it may be remarked that whenever we are called upon to act in cases of croup, it would be advisable to apply, in the first instance, the medicated sprays, these being very easily obtained, and the apparatus being always in readiness. The drugs above mentioned I would, from my own experience, arrange in the following order, in respect to their value: first, lime water; second, tannin; third, bromide of potassium.

I need not repeat that, with these, the administration of emetics or other remedies may and must be combined if considered necessary. The vapors and oxygen are not equally simple in their administration, and therefore can be applied only in those cases in which a suitable apparatus may be obtained. For the production of steam, an apparatus may readily be extemporized by holding a funnel over a vessel of boiling water, the patient inhaling through the tube of the funnel.

### 3. *Some Points in the Pathology and Treatment of Acute Capillary Bronchitis.* By J. K. SPENDER, M.B., Bath.

[*British Medical Journal*, Sept. 19, 1868.]

Acute capillary bronchitis is a disease always serious and often fatal. It is common at different seasons, and among many classes of people; it may occur in the course of other chronic diseases. Its sudden ingress and rapid development entitle it to a careful clinical study.

Acute capillary bronchitis has had several synonyms. It is the *peripneumonia notha* of the older authors; the *acute suffocative catarrh* of LAENNEC; the *asthenic bronchitis* of Dr. COPELAND. The nomenclature which I use now is that adopted by the most recent writers; it seems to convey accurately what is meant, to-wit, an inflammation of the terminal bronchial tubes—tubes nearest to the air-cells in size and function—followed by an exudation which more or less obstructs them.

I have been surprised by the comparatively little prominence given to this appalling disorder in the best professional textbooks. Either it is scarcely noticed at all, or it is discussed as a variety of common acute bronchitis. The disease is certainly not very common, but it is by no means rare; and I now venture to plead the substantive entity of acute capillary bronchitis, and its claims to a distinct nosological position. Dr. ADDISON employed the term "capillary bronchitis" to signify the irritative action set up in the lung by tubercle; but it is obviously unwise to apply the same term to two diseases so etiologically different.

An adult person suffering from general capillary bronchitis of the acutest kind presents very well-marked symptoms; and, as might be expected, those that are most urgent belong to the respiratory system.

(a) He breathes with extreme quickness; the pulse and breath ratio deviates from the norm sometimes so much as to be 2 to 1; ratios of 2 1-2 to 1, and 3 to 1, belong to the ordinary characteristics of the disease.

(b) He coughs very often, and expectorates a light foamy sputum. (c) His skin has a dusky-purple tint, the intensity of which is commensurate with the blood-stasis in the lungs.

(a) Concerning the first of these symptoms;—*the rapidity of the respiratory act* is governed by the law so clearly laid down by Dr. HYDE SALTER, that the urgency of dyspnœa is in direct proportion to the soundness of the lung substance, free access of air being cut off to the functioning portion of the lung by obstruction of the air passages. And this formula applies with precision to the case of acute capillary bronchitis; for, according to the conditions of the problem, the physiological area of the lung is everywhere free and capable of fulfilling its duty. The dyspnœa is severe enough even in partial capillary bronchitis; but when the disease is more or less universal, we have every condition present for producing a difficulty of the most extreme degree.

(b) Concerning the second point specified—the *frothy sputa* with which the finer air-tubes are choked; I remark, firstly, that this exudation does not afford so complete an obstacle to the inspiratory and expiratory currents of air as spasm of the air-tubes. Narrowing of these tubes by spasm makes the breath-currents narrow, and therefore slow. The muscular element is prolonged to the terminal bronchia; but notwithstanding this, the respiratory movements go on at a tremendous pace, and produce the well known auscultatory phenomenon of coarse bubbling crepitation—like “squeezing a sponge half saturated with water.” Next, I have to indicate the probable double origin of the sputum. It is, of course, partly a true exudation from an inflamed surface, and in the ultimate stage it contains pus cells. But there is a transudation of serum into the bronchial tubes, arising as Dr. G. JOHNSON has sagaciously pointed out, from engorgement of the bronchial veins; this engorgement being a sign and a consequence of a blockade in the pulmonary circulation. And there must be a very great disturbance of the pulmonary circulation when there is such terrible apnœa. If the pulmonary œdema, which so often occurs in the course of uræmia, is a true dropsy of the connective tissue of the lung—of the *inter-tubular* structure, in fact—then the transudation of serum from congestion of the bronchial veins is an *intra-tubular* dropsy, a dropsy of the true “parenchymatous” sort; and often not less fatal.

(c) The *dusky hue of the skin* is sometimes loosely called cyanotic. I submit, however, that the term “cyanosis” ought to be restricted to regurgitation of imperfectly aerated blood from heart disease, and not to mere stasis caused by difficulty in the lung. Not quite two years ago, I had under my care a case of typical cynosis in the person of an otherwise healthy young woman, the daughter of a farmer living near Bristol. The whole stress of the matter seemed to arise from a slight narrowing of the pulmonary artery (without lesion of its valves), which a dilated and weakened right heart had not power to overcome. The entire face looked



as if smeared with black currant juice of the deepest dye, the lips being fearfully crimson. The dyspnœa was most intense. Now this was a true cyanosis; and the absence of any irretrievable cardiac malformation was proved by the perfect success of a ferruginous treatment, which imparted tone to the right heart, and restored the natural tint to the complexion in a few months. Compare this with the mere dull purple color developed by capillary bronchitis and other analogous affections of the lungs, and the difference is sufficiently conspicuous to be diagnostic.

The compound condition known as "collapse" is very marked in acute capillary bronchitis. The skin is cold and sweating; the bowels are confined; the urine is turbid and very scanty. The likeness of this condition to what happens in cholera, and during a paroxysm of asthma, is evident enough.

A few words on *diagnosis*. 'It might be summarily asked—Is there any disease which can be possibly confounded with acute capillary bronchitis? Listen to this short story. One day last winter, there was brought to me at the Eastern Dispensary, Bath, a young girl who was wheezing, panting, and purple. Before asking the mother (who accompanied her) a single question, I said to myself—Is this child suffering from capillary bronchitis, acute tubercle, or mitral regurgitation of heart with secondary lung disease? I ordered her home, and examined her in bed the same evening. A glance at the thermometer decided the matter; the temperature was above 103 deg., and the child was dead within three days. But I was also amazed at the similitude of many of her objective signs to those of capillary bronchitis: the main points of unlikeness being the very scanty sputa (mixed with a little blood) and the decided heat of skin. And the history of the case was very distinct in its indications of tuberculosis.

A person who has suffered severely from capillary bronchitis is often long in recovering the usual bright florid hue of skin. You may see him all the next summer carrying about a sure legend of the peril he has undergone; he looks metallic and dull, and is chary of any swift exertion. He has been smartly hit in a vital point, and he dreads what the next winter may bring forth. Influenza is perhaps one of the most serious epidemic maladies which he has to fear. There is usually some emaciation. Capillary bronchitis in children is always a most dangerous disease.

**TREATMENT.**—We start from the postulate, that capillary bronchitis is often amenable to skilful and decisive treatment, if it be begun early enough. The pathological picture which has been drawn is rather dark, but by no means discouraging. Certain landmarks stand boldly out, which we may follow without hesitation.

On Sunday morning, April 14, 1867, I was asked to see a laboring man, a patient of the Eastern Dispensary, Bath, who was in the collapsed stage of the disease. Every feature was well marked, and he seemed in great danger. My internal remedies were—a tablespoonful of brandy every two hours; five grains of sesquicarbonate of ammonia every two hours, alternately with the brandy; and a small quantity of fresh cold milk

whenever it could be taken. My external remedies were—a warm atmosphere rendered moist by steam; and a hot linseed meal poultice over the whole of the back of the chest. In the evening he was better; the skin was warm, the dyspnœa less urgent, and the urine less scanty. The same means were continued with the same success. He improved day by day; he gradually took strong broths and less and less alcohol, and within a week was rapidly convalescent.

In some excellent clinical remarks on capillary bronchitis, written some years ago by my friend Dr. HYDE SALTER, he objected to using alcohol in this disease, on the ground of its giving the lung more eliminating work to do during an emergency when physiologically it ought to be kept quiet. My apology on the other side must rest on the facts so clearly substantiated by Drs. ANSTIE and INMAN, that (*a*) alcohol affords a positive dynamic support to the nervous system; and (*b*) it is a temporary food which sustains vital function until more complex compounds can be appropriated. And all *a priori* objections vanish before the favorable test furnished by actual experience.

Concerning sesquicarbonate of ammonia, I am amused by the divergent opinions which prevail among my medical friends about this drug. I know two physicians, one of whom literally prescribes it for almost everything; and the other as unqualifiedly declares that he has no faith in it for any curative purpose whatever. Adopting a kind of middle view, I incline to the doctrine that this salt is a valuable therapeutic auxiliary to other measures when we have to contend with certain forms of bronchial distress. I am sure of its capability to do good service in the proper asthenic bronchitis of old people. I claim for it no higher virtue, because I know our proneness to call any drug a *specific* which we know particularly well how to work with.

I would beg special attention to the absolute mortality of the smallest quantity of opium, and to the still more destructive effects of morphia.

If a patient be teased by residual catarrhal sputa, a short mercurial course will clear it away; and after that (or even at the same time) an iron tonic will help to restore the general health.

Great care must be taken at all seasons of the year that the skin is properly protected.

To recapitulate: I would specify the following points as deserving notice in the clinical history and management of acute capillary bronchitis:—

1. The extraordinary pulse and breath-ratio, and the intense dyspnœa.
2. The pathological origin and character of the sputum.
3. The quasi-cyanosis of the skin, together with the so-called "collapse."
4. The occasional indistinctness of the diagnosis from acute tubercle.
5. The necessity of a supporting and alcoholic treatment.

#### 4. *Tonka Bean in Pertussis.* By JOHN COOPER, M.D., Philad.

[*Medical and Surgical Reporter*, Oct. 31, 1868.]

It was suggested to me that the Tonka bean would be useful in pertussis,

as it contained a large percentage of *coumarin*, the active principle of the clover tops—*trifolium melilotis*—recommended for that disease. An opportunity offered to try the effect of it, and in the first case, a child of three years, the results were such as to give encouragement. Subsequently I have tried it in four more cases, two of which were of a grave type. The oldest—a little girl of five years—was a great sufferer, the paroxysms frequent and exceedingly severe, disturbing her sleep frequently during the night. She began with 5 drops of the fluid extract in sweetened water every three hours, increased to 8 after the third dose. Relief was soon felt, and the paroxysms gradually subsiding she soon slept all night, and her cough now seems more like that of an ordinary cold than that of pertussis. The parents in each case have expressed themselves forcibly in praise of the “drops.”

In one case the medicine was all taken and the parents felt the disease cured, and failed to procure more of it. In a few hours the paroxysms returned, when they sent for more of the fluid extract which again has given relief. With these facts before me I can not but feel that in the Tonka we have a remedy which will be of incalculable benefit to children. As far as my observation is concerned, I could not say that the bean cures, nor will I attempt an explanation of its effects, but it surely gives relief, and further experience with it will lead to an estimate of its therapeutical effect. It is to be hoped that the profession will examine into it with care, for I am convinced we have in it a means of saving many lives, besides giving great relief to all who suffer from the disease.

## OPHTHALMOLOGY.

1. *On some Unnecessary Causes of Impaired Vision.* By B. JOY JEFFRIES, M.D., Surgeon to the Massachusetts Charitable Eye and Ear Infirmary, etc.

[*Boston Medical and Surgical Journal.*]

[We have been compelled to condense Dr. JEFFRIES' excellent paper, in order to bring it within the space which we can afford to give to it, and have, therefore, made a few slight changes in its phraseology.]

Dr. COHN, of Breslau, has recently carefully examined the refractive condition of the eyes of 10,060 children in the lower, middle, and upper schools of Breslau and other places in Silesia. Besides this, he has examined 410 of the 964 students at the Breslau University in the winter of 1866-67, and from his publications of the first at Leipzig, 1867, the second in the *Berliner Klinische Wochenschrift*, 1867, No. 50, we gather the following results. . . .

Dr. COHN chose five village schools in Langenbielau, with 1,486 scholars,

of myopia is to be found in imperfect vision dependent on a matism. This defect (which is generally congenital and probably hereditary) leads to the habit of holding the book very near face, and so calls forth those excessive efforts at accommodation and convergence which Dr. COHN recognizes as the most important factors in the production of myopia.

Let us see now how it is with the *spectacles* of these near-sighted young of both sexes, even in the land from which almost all our knowledge of refraction and accommodation of the human eye comes. Dr. COHN found only 107 wearing glasses. Of these only 8 had been ordered by a physician, the other 99 bought by the children upon their own selection. Some changed the glasses prescribed for them by a physician for stronger ones. Of the 107 only 26 exactly neutralized the myopia, 41 were weaker, 40 stronger than the myopia. But 11 out of the number had concave glasses that were not injurious. Well might Dr. COHN say, "If I accomplish nothing else by my whole labor than that hereafter no scholar would wear a glass except by the ophthalmic surgeon's advice, I should feel amply rewarded."

The question of wearing glasses or not, in cases of near-sightedness in young people, is of vital importance as affecting the future course of the disease, yet it is generally decided upon no more relevant ground than caprice, or perhaps, personal vanity. So, too, the selection of glasses is, in most cases, practically left to the very incompetent decision of the children themselves. Now it is the rare exception, rather than the rule, that children select the best glass; on the contrary, they are almost sure to select glasses too strong for them, especially if the myopia is complicated by astigmatism (which is true of a very large proportion of all the cases of myopia which we have investigated). But even if the glasses originally selected are right at the time they are certain to be outgrown (for myopia in young persons is always a progressive disease); so also the glasses which we originally chosen too strong, from that very fact urge on the progress of the myopia until they too are outgrown. Hence the necessity not only of adopting concave glasses only upon competent professional advice, but also of consulting the ophthalmic practitioner from time to time, as in any other chronic disease.

Now let us see how it is with hypermetropia or over-sightedness, comparatively recently recognized as a fertile source of impaired vision. Only the manifest, namely that which could be ascertained without the use of atropine, was determined. Of the 10,060 children, 152 boys and 8 girls = 239 were over-sighted. Very differently from myopia, no increase of hypermetropia was found with increase of age or number of school

It varied between 1-60 and 1-8. Only 9 children wore convex glasses, generally strong ones, by physicians' directions. One hundred fifty-eight of the 239 hypermetropic children squinted inwards. Of the students examined Dr. COHN found only 15 hypermetropic, ranging in degree from 1-60 to 1-9.

Out of 23 cases noted as astigmatism, in but one was the proper remedy of cylindrical glasses employed; they were rejected, of course, by an ophthalmic surgeon.

Now then comes the question, whether any of these causes of impaired vision can be prevented or removed. If so, certainly it is our duty to inform the community what they ought to do, and how. First, then, in regard to nearsightedness. Prof. DONDERS said, "the cure of myopia belongs to the *pia desideria*. The greater our knowledge of the causes of this anomaly, the less seems even any future hope of our curing it." Dr. COHN says, we can not shorten the too long axis of the eye, or prevent the bulging of the posterior pole of the globe. But we can do a great deal to prevent nearsightedness developing in those prone to it, by checking it where progressive; by adequate illumination, natural and artificial, not forcing the scholars, proper type and impression, and, most of all, by seats and desks appropriately constructed. We sent from America with considerable pride our school furniture and appurtenances to the World's Fair. These were carefully examined and measured by Dr. COHN, and like all the others, found so arranged as to produce these results we are speaking of, as he has shown in the *Berliner Klinischen Wochenschrift*, No. 41, 1867, under title, "The school houses at the Paris Exposition from a hygienic point of view."

With reference to the necessity of wearing proper glasses to correct nearsightedness the community seems totally ignorant; and as little appreciate that the ophthalmic surgeon alone can choose these properly. I regret here to add that our experience proves that a large number of practicing physicians share the ignorance and prejudice of the laity.

Dr. COHN found 9 only of the 239 hypermetropic oversighted children wearing glasses. Yet, as he says, the sooner (even at six years of age, if necessary) we give the hypermetropic a proper convex glass, the less his power of accommodation be strained and injured. And here we must not resist quoting the following, for it is perfectly applicable to our community:

"The hypermetropic child who has found his seeing difficult, or almost impossible, and notwithstanding repeated injunctions laid his head again on his book, puts on unwittingly his grandfather's or grandmother's spectacles, and suddenly can now see clearly and without effort the finest object at the usual distance, asks therefore to be allowed to wear them. But the parents' fear of spectacles for young children prevents his having such so very important assistants for his work, no physician is questioned, and the child is forced to compensate for the refractive error of his eyes by calling upon his whole power of accommodation."

Probably 90 percent of the cases of convergent squint are due to hyper-

metropia. But we know, as Dr. COHN says, "An eye which squints a long time gradually loses its power of seeing, because it does not exercise vision with the other, just as the left hand is generally weaker than the right because it is less used. This is a long-known fact that should induce every teacher to prevent the scholar's squinting. Among 135 cases of permanent squint, the power of vision in the turned eye was reduced in varying degrees. We call V. (Vision) equal 1, when a type, which a normal eye can read at 20 feet, can be deciphered at this distance. If it can only be read at 10 feet then  $V=10-20=1-2$ , etc. Correcting any near or oversightedness with proper glasses, and then letting the eye armed with them read the type where it can, and we shall, if this distance is less than normal and there is no disease of the several parts of the eye, have proof that the retina is less sensitive to impression, which is exactly the case with squinting eyes."

Finally, does all here said in reference to school children and students apply to our community? We believe from personal experience that it does, and that such extended researches as Dr. COHN has made, if here undertaken, would prove it beyond doubt. A higher standard of education is being steadily demanded and striven for, and can be gained only by taxing the eyes more severely. It would certainly seem, therefore, the duty of parents, as well as all interested and occupied with the education of youth, our Boards of Education and School Committees, to assure themselves that they are doing all in their power to avert what even the community generally recognize as a growing evil, namely, the graduation of a large number of highly educated young men and young women with permanently impaired vision from unnecessary causes.

2. *Refinitis Nyctalopica*. By Prof. Dr. ARLT, of Vienna.  
[Translated by Dr. J. F. WEIGHTMAN, M.D. Philadelphia:  
Lindsay & Blakiston. 1868. 8vo. pamphlet.]

Persons suffering with this affliction, complain of *diminution in the sharpness of sight*, and of a *blinding in bright daylight*. They assert that they can not see objects at a distance well, and are unable to distinguish the countenances of those who are only a few paces from them. They express tormenting feelings of constant blinding, or declare that they feel decidedly relieved, after sunset, on a cloudy day, or in the moonlight, so that they are then made sure of seeing quite well or decidedly better.

Of the thirty-three such patients, three still read No. 3 or 4 of the test-type of Jaeger. Only two could not read No. 16, but Nos. 18, or 20; the majority, however, read No. 11 or 14.

The diminution of the sharpness of sight extended uniformly over the whole field of vision, and it was not possible to find either an interruption or limit to it. In all cases the disturbance of vision made itself first noticeable by looking at distant objects, and later, in reading and writing.

In all cases both eyes were affected at the same time and in an equal or only slightly different degree. The test-type gave at most only a differ-

ence of three or four degrees, and only in two cases where a difference existed could there be found, by means of the ophthalmoscope, a consistent difference in the retina.

Externally there was nothing abnormal to be seen as regards the appearance of the globe, except that with some there existed a somewhat stronger injection of the anterior ciliary arteries than normal, but not of such a nature that special weight could be laid upon it. The pupils were in general narrow, but in no case were they abnormally large. The tension of the globe was normal, while in the look, physiognomy, or manner of the patient nothing peculiar could be observed.

By examination with the ophthalmoscope the dioptric media appeared clear. The conditions in which the optic nerve and retina were found differed according to the degree, and, indeed, according to the duration of the affection, and during the time of observation I could often perceive changes. The papillæ appeared at the time of the first examination to have a decidedly increased redness, but in some, on the contrary, they presented a diminished redness, while in others it was not possible to speak with certainty. In many cases the abnormal injection in the region of the optic nerve and retina was lost during observation and treatment, while in many there appeared even an abnormal paleness of the papillæ. Distinct inflammatory changes of the retina could only be observed, in ten cases, either at the commencement of observation or in the further course of the affection. These consisted of a veiling, uniform, or striped cloudiness of the retina only in the papillæ or towards the equator. In these cases the border between the papillæ and retina was more or less indistinct, but I never saw distinct swelling of the papillæ or bright points, spots or ecchymoses on the retina. It may indeed be accepted that hyperæmia and inflammatory changes were present in the beginning of all cases. That they were not noticed in many cases was because they had in general reached so slight a degree as to escape observation in the upright image, or because at the time of observation had already disappeared to such an extent as not to be recognized.

The course in general is a long one. The disturbance of vision is generally suddenly noticed, and remains for a long time the same, or gradually increases without visible oscillations up to a certain degree, at which it may remain months or years without going on to total blindness, but the last I have never been able to observe.

Only in high degrees of visual disturbance does the duration appear to be tedious, and a perfect cure is not to be expected of those who can not read No. 16.

This affection does not occur very frequently, because I have counted since first making the diagnosis, one case in every nine hundred or thousand of all patients which I have seen yearly. It is not accidental that I have heretofore found it exclusively among men, for it depends most probably on the mode of living and occupation. The youngest patient was twenty-three and the oldest fifty-seven years of age. None were remarkably myopic, two strongly hypermetropic, and many more or less presbyopic, yet there was no other disease with which the affection could be brought in relation.

In regard to the question as to the cause of the affection, I received for the most part either no information at all or that which was unreliable or improbable. I mean, however, from those who came before me; but from the histories of some patients, and my own therapeutical experience, may be deduced the assumption that the cause of this affection is blinding by bright, reflected or diffused sunlight, and refers in this relation to the appended histories and to the notices of treatment.

The treatment demands, next to rest of the eye, the removal of all occupation which necessitates the long fixing of the eye on an object and more or less straining of the accommodation. The patients must be earnestly warned against trying their sight, to which they are so easily induced by impatience and anxiety dependent on the long continuance of treatment. They must allow themselves to be satisfied that the physician examines and carefully notes the sight from time to time. In the greater number of cases the improvement is shown by the decreased sensibility to bright daylight and by the better perception of distant objects. The second consideration is the tempering of the light. It is sufficient to keep the patient in a moderately dark room, and on going out to protect the eyes by means of smoke-gray glasses. To all is the wearing of dark glasses comfortable; they assert they see better than without them; some prefer the blue glasses, others the smoke-gray. The *mussell-shell* or *watch-glass* form, of such a size as to cover the orbital openings, are much to be preferred, especially when they have side pieces, as the result depends on the equal protection of the whole field of vision. I have seen several patients spontaneously cured either by only observing the previously given condition, or with the assistance of a light cooling aperient.

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As a proper means of cure I can only declare for a methodical course of mercury, and it is true I have either used corrosive sublimate pills in increasing doses, or the mercurial inunction for three or five weeks, repeated after a long pause, and followed by iodide of potassium.

Seventeen of the thirty-three patients were cured, and nine were relieved when they went from under treatment; the others presented themselves only a few times and then remained away. In no case did it occur that after long treatment I could say that there had been nothing gained.

[JOHN GREEN, M.D.]

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## Editorial.

### *THE ORIGIN AND PROPAGATION OF TUBERCLE.*

The experiments of VILLEMIN, the results of which startled the medical world in 1865, have been confirmed since that date by so many observers—CORNIL, SIMON, LEBERT and WYSS, WALDENBURG, WILSON FOX, SANDERSON, KLEBS, et al.,—that the legitimate inference from these experiments, the possibility of producing tubercle artificially by inoculation, may be considered as an established truth. But it seems now to have been proved by abundant experience that the other conclusion which VILLEMIN ventured to draw, respecting the specificity of tubercle, is fallacious. LEBERT and WALDENBURG deny the specificity of the tubercle by inoculation, and regard the latter as the product of mechanical irritation, on the ground that the inoculation of non-tubercular products of disease leads to the same results,—a position, by the way, which KLEBS recently strenuously endeavored to refute, re-asserting the specificity of human miliary tubercle.\*

The series of experiments, however, lately performed by Dr. BURDON SANDERSON, and by Dr. WILSON FOX, support the doctrine that tubercular deposits can be artificially produced in animals by the inoculation of materials not related to tubercle,—even of vaccine, and of indifferent substances (cotton thread, seton). Dr. FOX said, in a lecture delivered at the Royal College of Physicians:† “He (Dr. SANDERSON) found that inert matters introduced under the skin of the rodentia are followed by appearances in these animals which he considers tubercular, and which I consider tubercular.” And farther on: “In conclusion, I think I may say that any one who doubts whether these growths are tubercular is bound to show that a hitherto unknown disease exists affecting the rodentia, excited by special

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agencies, occurring in all the organs in the chosen seats of tubercle in man, occurring with equal frequency in them and in the same *parts* of these organs as in man, growing with the same general features of histological character, and having the same vital characters and the same early degenerative cheesy change,—not suppuration nor ordinary acute softening,—and yet that this disease is not tubercular.” The following extract from a letter of Dr. WASHINGTON, gives an interesting account of a series of similar experiments performed, and similar results obtained, by Dr. COHNHEIM, now Professor of Pathological Anatomy at Kiel.

*Extract from a Letter by Dr. N. C. WASHINGTON (of St. Louis),  
dated Berlin, October 26, 1868.*

. . . I was invited a few evenings since to the Berlin Medical Society, and I do not remember of ever passing a more instructive, and, at the same time, more interesting evening in my life. Prof. COHNHEIM related to the association the results of some experiments that he had been making during the past year with regard to the specificity of tubercle; he said that he had been led to make these experiments from the results of VILLEMIN, the French pathologist, who found that he could produce tubercle at will by injecting it directly into the circulation, or by placing it in some of the great cavities, whence it is absorbed. This the Frenchman accepted as proof positive of the specific poison. But it must be understood VILLEMIN made no negative experiments, and hence his results are to be disregarded. He set out to *prove the specificity*, and not the question whether it was, or was not. Prof. COHNHEIM selected guinea-pigs as the animals to make his experiments upon, for the reason, he said, that he had found them more tolerant of abdominal interference,—i. e., peritonitis was less likely to ensue when the abdominal cavity was opened and exposed, than in rabbits, the animal usually selected for physiological and pathological experiments.

He began with the first of VILLEMIN's experiments, which consisted in placing into the peritoneal cavity particles of tubercle;—this he did with five or six pigs. One died in a week with peritonitis, and upon examination it was found that tubercular deposits had taken place in the liver, peritoneum, and diaphragm, but the lungs were entirely free. The others died in different periods, in 30, 40, and one in 60 days; and in some was found the gray miliary tubercle, deposited in all the abdominal organs, the diaphragm and the lungs, while in others not tubercle, but a cheese-like substance. He then proceeded to make the other experiments of VILLEMIN, which consisted in introducing directly into the circulation tubercular products obtained from the organs of the animals upon which the preceding experiments were made, taking from some the regular gray miliary tubercle, and the cheesy products from others. These products

were introduced into the general circulation through the jugular vein. He says that he was much struck with the rapidity with which death ensued,—all dying within a week or ten days after the operation; and in some were found tubercula, in which the *cheesy* matter had been placed, and vice versa. The results of this experiment led him to conclude that there was something more than what was contained in the tubercle, or in the cheesy product, that increased the rapidity in the production of the same. He therefore opened the jugular vein, introducing *nothing*, but merely closing it as before; the animals all died. An examination was made, and both tubercle and also this same cheesy production were found. Here we have tubercula, the result of *irritation*; and this is the starting point in negating the specificity of tubercle.

He now began a series of experiments with foreign bodies which act as irritants. He introduced gutta percha into the abdominal cavity, as he had done the tubercle and the cheesy matter before; the result was the same, the animal living about as long as those in which the above experiments had been made: tubercle was found in the abdominal viscera, as also in the diaphragm and lungs. An examination of the foreign body gave the following:—the gutta percha was found encapsulated; on the inner face of the capsule were found small proliferations of the lymphatic vessels which had pierced the substance of the capsule; the space between the foreign body and the capsule was filled with disintegrated pus which, conveyed into the circulation by absorption, produced the tubercula in distant organs.

The experimenter, finding that irritation caused by the opening of the jugular vein, or by the introduction of a foreign body, could be followed by the deposition of tubercle in the substance of all the organs,—abandoned the guinea pig for the dog, an animal *which in nature is never affected with tubercle*, a fact which was furnished to the professor by the physician in charge of the Veterinary School and Hospitals. The result of these experiments was practically the same, viz., tubercle was produced with tubercle, with the cheesy products, with the foreign body, with the contents of the capsule of the foreign body,—namely, disintegrated pus,—either introduced immediately into the circulation, or by absorption.

Although Prof. COHNHEIM was careful not to draw any conclusions, beyond the proof established by these experiments, that there was no specific bearing to be attached to tubercle, yet I may be permitted to follow his investigations and carry them into practical life. These experiments have established the important fact that irritation can be followed by tubercular deposits in the abdominal viscera, the lungs, and the diaphragm. This explains in a moment why we have consumption following a typhoid fever; here the intestinal glands being irritated, the product of this irritation (decayed pus) being carried into the general circulation, manifests itself in the lungs in the form of tubercle. The ulcerated glands may heal, a cicatrix may form, but the *products* of decay are at this period in the liver, or lung, or both. So it is with peritonitis, phlebitis, and, in fact, any inflammation terminating in suppuration can

and 28 city schools in Breslau, with 8,574 scholars; of these latter, 20 were *elementary*, 2 *intermediate*, 2 *girls' high*, 2 where languages and science were taught (*Realschulen*), and 2 *gymnasiums*. Among the ten thousand children, he found 1,730 with defective vision, making 17.1 percent, the average number *increasing with the degree of demand upon the eyes at school*. In the city schools there were four times as many children with defective vision as in the country. With regard to sex, boys 18.8 and girls 14.3 percent. The relation of defective vision to abnormal refraction is shown by the following table:—

Normal eyes,	8,330 = 83.
Abnormal refraction,	1,334 = 13.
Other affections,	296 = 4.
	<hr/>
	10,060 = 100

Thus showing three times as many cases of abnormal refraction as other ophthalmic troubles in youth.

Of the 1,334 cases of abnormal refraction,

1,072 were of myopia.  
 239 were of hypermetropia.  
 23 were of astigmatism.

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1,334 total.

The absurdly small proportion of cases of astigmatism noted, reveals only the utter insufficiency of the methods adopted for the detection of this anomaly; this need not, however, throw discredit upon the statistics of myopia and hypermetropia, or the general deductions drawn from them.

The following are deductions from his data in reference to nearsightedness.

1st. No school was without myopic scholars. 2d. The number varied greatly in the various schools. 3d. In the village schools very few (1.4 percent). 4th. In city schools eight times as many (11.4 percent). 5th. In the city elementary schools 4 to 5 times as many as in village (6.7 percent). 6th. Girls' high school more than the elementary (7.7 percent). 7th. In the city schools there is a steady increase of the number of myopes from the lower to the upper (elementary 6.7 percent, middle 10.3 percent, *Real* 19.7 percent, gymnasiums 26.2 percent). 8th. In the middle one-tenth and more, in the *Real* one-fifth, and in the gymnasiums more than one-fourth of the children are nearsighted. . . .

Let us follow now these young persons as they grow older.

As we said above, Dr. COHN examined 410 of the 964 students at the Breslau University, without selection, however. Among these 410 not *one-third* had normal eyes, and nearly *two-thirds* were shortsighted. His data showed myopia to be the most frequent affection of the eye among students, and that it increased with the age, and number of terms

of student life. The following table gives the average degree of myopia at the different schools, showing how steadily it increases. (The denominator of the fraction represents the focus of the concave glass required to correct the nearsightedness.)

In 5 village schools,	M.	$\frac{1}{24.4}$
" 22 elementary "	M.	$\frac{1}{22.7}$
" 2 middle "	M.	$\frac{1}{21.9}$
" 2 real "	M.	$\frac{1}{19.6}$
" 2 gymnasiums,	M.	$\frac{1}{18.7}$
" 2 prima	M.	$\frac{1}{17}$
Among the students,	M.	$\frac{1}{14}$

These data led Dr. COHN to endeavor to ascertain what there was in the schools which originated or increased nearsightedness. He had taken the bodily measurement of these 10,060 children, and measured in comparison the school desks and seats, from which he found that all school furniture was badly constructed, so as to readily increase or induce myopia. From the furniture not being adapted to the body of the children, they are obliged to bend the head over forward, thereby hindering the return of the blood from the eye, and keep the print so near (3 to 4 inches) as to too greatly task the power of accommodation. Both of these as we know, induce nearsightedness. Inadequate light and misplaced windows Dr. COHN found greatly affecting the amount of myopia amongst the pupils of the school, as also inadequate and badly arranged artificial light where used.

Two of the most frequent and important causes which predispose to myopia are overlooked or not sufficiently regarded by Dr. COHN. Evidence of hereditary predisposition was obtained in but 28 cases out of 1,072, or 2.6 percent. This is clearly an oversight, and can only have arisen from the acceptance of the statements of the children as to the condition of their parents. Such statements must necessarily be fallacious in view of the very vague notions which prevail as to what constitutes nearsightedness. The data given may, however, be accepted as a guide to the number of cases in which the parents habitually wore concave glasses. This gives about one-fourth as many parents as of children wearing glasses, which may be readily enough explained by the fact of the severer demands made upon the children of the present day as compared with their fathers and mothers in their childhood. The other predisposing cause

of myopia is to be found in imperfect vision dependent on astigmatism. This defect (which is generally congenital and probably hereditary) leads to the habit of holding the book very near the face, and so calls forth those excessive efforts at accommodation and convergence which Dr. COHN recognizes as the most important factors in the production of myopia.

Let us see now how it is with the *spectacles* of these near-sighted youth of both sexes, even in the land from which almost all our knowledge of refraction and accommodation of the human eye comes. Dr. COHN found only 107 wearing glasses. Of these only 8 had been ordered by a physician, the other 99 bought by the children upon their own selection. Some had changed the glasses prescribed for them by a physician for stronger ones. Of the 107 only 26 exactly neutralized the myopia, 41 were weaker, 40 stronger than the myopia. But 11 out of the number had concave glasses that were not injurious. Well might Dr. COHN say, "If I accomplished nothing else by my whole labor than that hereafter no scholar wore a glass except by the ophthalmic surgeon's advice, I should feel amply rewarded."

The question of wearing glasses or not, in cases of short-sightedness in young people, is of vital importance as affecting the future course of the disease, yet it is generally decided upon no more relevant ground than caprice, or perhaps, personal vanity. So, too, the selection of glasses is, in most cases, practically left to the very incompetent decision of the children themselves. Now it is the rare exception, rather than the rule, that children select the best glass; on the contrary, they are almost sure to select glasses too strong for them, especially if the myopia is complicated by astigmatism (which is true of a very large proportion of all the cases of myopia which we have investigated). But even if the glasses originally selected are right at the time, they are certain to be outgrown (for myopia in young persons is always a progressive disease); so also the glasses which were originally chosen too strong, from that very fact urge on the progress of the myopia until they too are outgrown. Hence the necessity not only of adopting concave glasses only upon competent professional advice, but also of consulting the ophthalmic practitioner from time to time, as in any other chronic disease.

Now let us see how it is with hypermetropia or over-sightedness, comparatively recently recognized as a fertile source of impaired vision. Only the manifest, namely that which could be ascertained without the use of atropine, was determined. Of the 10,060 children, 152 boys and 87 girls = 239 were over-sighted. Very differently from myopia, no increase of hypermetropia was found with increase of age or number of school

ms. It varied between 1-60 and 1-8. Only 9 children wore convex lenses, generally strong ones, by physicians' directions. One hundred and fifty-eight of the 239 hypermetropic children squinted inwards. Among the students examined Dr. COHN found only 15 hypermetropic, varying in degree from 1-60 to 1-9.

Out of 23 cases noted as astigmatism, in but one was the proper remedy of cylindrical glasses employed; they were prescribed, of course, by an ophthalmic surgeon.

Now then comes the question, whether any of these causes of impaired vision can be prevented or removed. If so, certainly it is our duty to teach the community what they ought to do, and how. First, then, in regard to nearsightedness. Prof. DONDEES said, "the cure of myopia belongs to the *pius desiderii*. The greater our knowledge of the causes of this anomaly, the less seems even any future hope of our curing it."

Dr. COHN says, we can not shorten the too long axis of the eye, or reduce the bulging of the posterior pole of the globe. But we can do a great deal to prevent nearsightedness developing in those prone to it, and check it where progressive; by adequate illumination, natural and artificial, not forcing the scholars, proper type and impression, and, most of all, by seats and desks appropriately constructed. We sent from America with considerable pride our school furniture and appurtenances to the World's Fair. These were carefully examined and measured by Dr. COHN, and like all the others, found so arranged as to produce these evils we are speaking of, as he has shown in the *Berliner Klinischen Wochenschrift*, No. 41, 1867, under title, "The school houses at the Paris Exposition from a hygienic point of view."

With reference to the necessity of wearing proper glasses to correct nearsightedness the community seems totally ignorant; and as little appreciate that the ophthalmic surgeon alone can choose these properly. We regret here to add that our experience proves that a large number of practicing physicians share the ignorance and prejudice of the laity.

Dr. COHN found 9 only of the 239 hypermetropic oversighted children wearing glasses. Yet, as he says, the sooner (even at six years of age, necessary) we give the hypermetropic a proper convex glass, the less will his power of accommodation be strained and injured. And here we can not resist quoting the following, for it is perfectly applicable to our community:

"The hypermetropic child who has found his seeing difficult, or almost impossible, and notwithstanding repeated injunctions laid his head again upon his book, puts on unwittingly his grandfather's or grandmother's spectacles, and suddenly can now see clearly and without effort the finest print at the usual distance, asks therefore to be allowed to wear them. But the parents' fear of spectacles for young children prevents his having these so very important assistants for his work, no physician is questioned, and the child is forced to compensate for the refractive error of his eye by calling upon his whole power of accommodation."

Probably 90 percent of the cases of convergent squint are due to hyper-

metropia. But we know, as Dr. COHN says, "An eye which squints a long time gradually loses its power of seeing, because it does not exercise vision with the other, just as the left hand is generally weaker than the right because it is less used. This is a long-known fact that should induce every teacher to prevent the scholar's squinting. Among 135 cases of permanent squint, the power of vision in the turned eye was reduced in varying degrees. We call V. (Vision) equal 1, when a type, which a normal eye can read at 20 feet, can be deciphered at this distance. If it can only be read at 10 feet then  $V=10-20=1-2$ , etc. Correcting any near or oversightedness with proper glasses, and then letting the eye armed with them read the type where it can, and we shall, if this distance is less than normal and there is no disease of the several parts of the eye, have proof that the retina is less sensitive to impression, *which is exactly the case with squinting eyes.*"

Finally, does all here said in reference to school children and students apply to our community? We believe from personal experience that it does, and that such extended researches as Dr. COHN has made, if here undertaken, would prove it beyond doubt. A higher standard of education is being steadily demanded and striven for, and can be gained only by taxing the eyes more severely. It would certainly seem, therefore, the duty of parents, as well as all interested and occupied with the education of youth, our Boards of Education and School Committees, to assure themselves that they are doing all in their power to avert what even the community generally recognize as a growing evil, namely, the graduation of a large number of highly educated young men and young women with permanently impaired vision from unnecessary causes.

2. *Refinitis Nyctalopica*. By Prof. Dr. ARLT, of Vienna.  
[Translated by Dr. J. F. WEIGHTMAN, M.D. Philadelphia :  
Lindsay & Blakiston. 1868. 8vo. pamphlet.]

Persons suffering with this affliction, complain of *diminution in the sharpness of sight*, and of a *blinding in bright daylight*. They assert that they can not see objects at a distance well, and are unable to distinguish the countenances of those who are only a few paces from them. They express tormenting feelings of constant blinding, or declare that they feel decidedly relieved, after sunset, on a cloudy day, or in the moonlight, so that they are then made sure of seeing quite well or decidedly better.

Of the thirty-three such patients, three still read No. 3 or 4 of the test-type of Jaeger. Only two could not read No. 16, but Nos. 18 or 20; the majority, however, read No. 11 or 14.

The diminution of the sharpness of sight extended uniformly over the whole field of vision, and it was not possible to find either an interruption or limit to it. In all cases the disturbance of vision made itself first noticeable by looking at distant objects, and later, in reading and writing.

In all cases both eyes were affected at the same time and in an equal or only slightly different degree. The test-type gave at most only a differ-



ence of three or four degrees, and only in two cases where a difference existed could there be found, by means of the ophthalmoscope, a consistent difference in the retina.

Externally there was nothing abnormal to be seen as regards the appearance of the globe, except that with some there existed a somewhat stronger injection of the anterior ciliary arteries than normal, but not of such a nature that special weight could be laid upon it. The pupils were in general narrow, but in no case were they abnormally large. The tension of the globe was normal, while in the look, physiognomy, or manner of the patient nothing peculiar could be observed.

By examination with the ophthalmoscope the dioptric media appeared clear. The conditions in which the optic nerve and retina were found differed according to the degree, and, indeed, according to the duration of the affection, and during the time of observation I could often perceive changes. The papillæ appeared at the time of the first examination to have a decidedly increased redness, but in some, on the contrary, they presented a diminished redness, while in others it was not possible to speak with certainty. In many cases the abnormal injection in the region of the optic nerve and retina was lost during observation and treatment, while in many there appeared even an abnormal paleness of the papillæ. Distinct inflammatory changes of the retina could only be observed, in ten cases, either at the commencement of observation or in the further course of the affection. These consisted of a veiling, uniform, or striped cloudiness of the retina only in the papillæ or towards the equator. In these cases the border between the papillæ and retina was more or less indistinct, but I never saw distinct swelling of the papillæ or bright points, spots or ecchymoses on the retina. It may indeed be accepted that hyperæmia and inflammatory changes were present in the beginning of all cases. That they were not noticed in many cases was because they had in general reached so slight a degree as to escape observation in the upright image, or because at the time of observation had already disappeared to such an extent as not to be recognized.

The course in general is a long one. The disturbance of vision is generally suddenly noticed, and remains for a long time the same, or gradually increases without visible oscillations up to a certain degree, at which it may remain months or years without going on to total blindness, but the last I have never been able to observe.

Only in high degrees of visual disturbance does the duration appear to be tedious, and a perfect cure is not to be expected of those who can not read No. 16.

This affection does not occur very frequently, because I have counted since first making the diagnosis, one case in every nine hundred or thousand of all patients which I have seen yearly. It is not accidental that I have heretofore found it exclusively among men, for it depends most probably on the mode of living and occupation. The youngest patient was twenty-three and the oldest fifty-seven years of age. None were remarkably myopic, two strongly hypermetropic, and many more or less presbyopic, yet there was no other disease with which the affection could be brought in relation.

In regard to the question as to the cause of the affection, I received for the most part either no information at all or that which was unreliable or improbable. I mean, however, from those who came before me; but from the histories of some patients, and my own therapeutical experience, may be deduced the assumption that the cause of this affection is blinding by bright, reflected or diffused sunlight, and refers in this relation to the appended histories and to the notices of treatment.

The treatment demands, next to rest of the eye, the removal of all occupation which necessitates the long fixing of the eye on an object and more or less straining of the accommodation. The patients must be earnestly warned against trying their sight, to which they are so easily induced by impatience and anxiety dependent on the long continuance of treatment. They must allow themselves to be satisfied that the physician examines and carefully notes the sight from time to time. In the greater number of cases the improvement is shown by the decreased sensibility to bright daylight and by the better perception of distant objects. The second consideration is the tempering of the light. It is sufficient to keep the patient in a moderately dark room, and on going out to protect the eyes by means of smoke-gray glasses. To all is the wearing of dark glasses comfortable; they assert they see better than without them; some prefer the blue glasses, others the smoke-gray. The *mussell-shell* or *watch-glass* form, of such a size as to cover the orbital openings, are much to be preferred, especially when they have side pieces, as the result depends on the equal protection of the whole field of vision. I have seen several patients spontaneously cured either by only observing the previously given condition, or with the assistance of a light cooling aperient.

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He began with the first of VILLEMIN's experiments, which consisted in placing into the peritoneal cavity particles of tubercle;—this he did with five or six pigs. One died in a week with peritonitis, and upon examination it was found that tubercular deposits had taken place in the liver, peritoneum, and diaphragm, but the lungs were entirely free. The others died in different periods, in 30, 40, and one in 60 days; and in some was found the gray miliary tubercle, deposited in all the abdominal organs, the diaphragm and the lungs, while in others not tubercle, but a cheese-like substance. He then proceeded to make the other experiments of VILLEMIN, which consisted in introducing directly into the circulation tubercular products obtained from the organs of the animals upon which the preceding experiments were made, taking from some the regular gray miliary tubercle, and the cheesy products from others. These products

were introduced into the general circulation through the jugular vein. He says that he was much struck with the rapidity with which death ensued,—all dying within a week or ten days after the operation; and in some were found tubercula, in which the *cheesy* matter had been placed, and vice versa. The results of this experiment led him to conclude that there was something more than what was contained in the tubercle, or in the cheesy product, that increased the rapidity in the production of the same. He therefore opened the jugular vein, introducing *nothing*, but merely closing it as before; the animals all died. An examination was made, and both tubercle and also this same cheesy production were found. Here we have tubercula, the result of *irritation*; and this is the starting point in negating the specificity of tubercle.

He now began a series of experiments with foreign bodies which act as irritants. He introduced gutta percha into the abdominal cavity, as he had done the tubercle and the cheesy matter before; the result was the same, the animal living about as long as those in which the above experiments had been made: tubercle was found in the abdominal viscera, as also in the diaphragm and lungs. An examination of the foreign body gave the following:—the gutta percha was found encapsulated; on the inner face of the capsule were found small proliferations of the lymphatic vessels which had pierced the substance of the capsule; the space between the foreign body and the capsule was filled with disintegrated pus which, conveyed into the circulation by absorption, produced the tubercula in distant organs.

The experimenter, finding that irritation caused by the opening of the jugular vein, or by the introduction of a foreign body, could be followed by the deposition of tubercle in the substance of all the organs,—abandoned the guinea pig for the dog, an animal *which in nature is never affected with tubercle*, a fact which was furnished to the professor by the physician in charge of the Veterinary School and Hospitals. The result of these experiments was practically the same, viz., tubercle was produced with tubercle, with the cheesy products, with the foreign body, with the contents of the capsule of the foreign body,—namely, disintegrated pus,—either introduced immediately into the circulation, or by absorption.

Although Prof. COHNHEIM was careful not to draw any conclusions, beyond the proof established by these experiments, that there was no specific bearing to be attached to tubercle, yet I may be permitted to follow his investigations and carry them into practical life. These experiments have established the important fact that irritation can be followed by tubercular deposits in the abdominal viscera, the lungs, and the diaphragm. This explains in a moment why we have consumption following a typhoid fever; here the intestinal glands being irritated, the product of this irritation (decayed pus) being carried into the general circulation, manifests itself in the lungs in the form of tubercle. The ulcerated glands may heal, a cicatrix may form, but the *products* of decay are at this period in the liver, or lung, or both. So it is with peritonitis, phlebitis, and, in fact, any inflammation terminating in suppuration can

be followed with tubercle. . . . I might carry the practical good accruing from these experiments much farther, but for the present I must content myself with this imperfect and hasty reference.

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*SURGICAL TREATMENT OF DISEASES OF THE UTERUS.*

We take pleasure in publishing, by request of Prof. PALLER, the following interesting letter from Dr. CABELL, the distinguished Professor of Surgery in the University of Virginia.

UNIVERSITY OF VIRGINIA, October 22, 1868.

PROF. M. M. PALLER, M.D.

*My Dear Sir,*—I have received your communication in which you request me to answer the following questions:

“1st. What are your (my) views as regards surgical treatment of diseases of the uterus, such as retro-flexion and ante-flexion, as proposed by Dr. MARION SIMS?”

“2d. Are such operations as sections of the uterine neck ever required?”

Presuming that you have been induced to ask for my views in consideration of the interest which I manifested in relation to these and kindred topics in the brief and interrupted conversation which I held with you at the Hot Springs in August last, I am bound to say that the interest thus exhibited was that of an honest inquirer and student rather than a professed expert, and that I must disclaim any right to speak *ex cathedra*. Having, however, formed pretty decided opinions on the points stated in your questions, I have no objection to giving them utterance.

Let me premise that while, like yourself, I have not been inattentive to the advancements in our profession, both my natural temperament and the tendencies of that stage of life to which I have arrived cause me to be rather distrustful of new things. My prejudices against the system of surgical treatment of uterine affections recommended and practiced by Dr. MARION SIMS were, for a number of years, particularly strong, and though very much abated in succeeding years by the reports which occasionally came under my notice of the successful results of such treatment, they were not wholly removed until circumstances compelled me to give a special and earnest attention to the subject.

I am not in a position to express a confident opinion as to the frequency, absolute or relative, of the cases of uterine displacements which *require* such surgical treatment as is practiced so successfully by Dr. SIMS and Dr. EMMET, but that there are such cases I have not a shadow of doubt, and I am inclined to believe that they are of much more frequent

occurrence than the opponents of this system of treatment are willing to concede. Certainly I have been cognizant of several cases of ante flexion, attended with obstructive dysmenorrhœa and with sterility, which had resisted all other methods of treatment through a period of many years, promptly relieved so far as to insure easy and painless menstruation, and to remove the sterility, by SIMS' well known operation on the cervix, as executed by Dr. EMMET.

Such cases furnish instances in which, in my judgment, sections of the uterine neck are absolutely required. I do not, of course, mean to affirm that in all cases of flexions the attendant uterine disturbance is caused by the flexion, and can only be relieved by mechanical treatment. I believe that in many cases the functional derangement is due to other causes, and may be relieved while the flexion remains; but when persistent efforts in this direction, continued through years of suffering to the patient, prove utterly fruitless, and then prompt and perfect relief is afforded by a simple surgical operation. I do not see how I can resist the conclusion that, for such cases, the operation is justifiable and necessary.

I believe incisions of the neck to be required in some cases of narrowed cervical canal, in some of fibrous engorgement of the walls of this canal, and in contraction of the os, while in others the sponge-tent may suffice.

It is now generally conceded, I believe, that ablation of an elongated and conical cervix is a justifiable operation. It is warmly recommended, I observe, by even M. GOUPILOU, who, in general, is opposed to the treatment of incising or dilating the cervix in cases of ante flexion.

I am very respectfully and truly yours,

J. L. CABELL.

#### DR. WATERS' DOCTRINES OF LIFE.

REPLY TO THE LETTER OF MR. JAMES HINTON, LONDON.

*To the Editor of the St. Louis Medical and Surgical Journal:*

SIR.—I was much pleased with the graceful manner that Prof. LE CONTE expressed his conviction in a letter, contained in a late number of your Journal, that my "claim is just" in regard to certain doctrines of life which I published first in 1851, and which have lately become the subject of controversy.

I am also gratified with that part of Mr. JAMES HINTON's letter which relates to the points at issue, for he admits everything I claimed in previous publications. But unfortunately, it seems to me, he introduces into his letter much which does not legitimately relate to the question. I will endeavor to be "generous" enough to pass by those portions of his letter in silence. I regret that he saw proper in that connection to introduce a new issue, and to volunteer a claim of "identity of thought," contained in a publication of 1848 by Dr. FREKE, of Dublin, with that which I

presented in 1851, and he in 1858 and 1862. I regret this because I am, after more than one careful perusal of Dr. FREKE's work, unable to find the identity claimed. If I could find this identity, it would be my duty and, I hope, pleasure to make proper acknowledgment; but as I do not find it, it is no less my duty, in justice both to Dr. FREKE and myself, to point out the points of essential difference. In justice to Mr. HINTON, too, I will endeavor to be as definite and pointed in my statements as possible; for as the "identity" which he claims does not exist in fact, *as I now affirm*, in the very act of relieving himself from a former position, he seems to me to have voluntarily jumped into a more complicated dilemma. I intend no reflection here upon his motives, but, after he "had no longer any personal interest in the matter," because he "had discovered that he was not the first possessor of this idea," he seems to me to have made this claim rather too inconsiderately, and even thoughtlessly. It may be possible that if I had been accorded that which is justly due me, I might be "in the world of thought wealthy enough to be generous," so far as not to notice even this part of Mr. HINTON's letter; but as it is, silence would be a tacit acquiescence in the justness of the claim, and yet lacking a manly and frank acknowledgment. This I can not afford; hence, on every side I seem forced to reply. Moreover, I am too much in earnest, and have too high an opinion of Mr. HINTON's real ability, to bandy compliments with him; this must not be expected of me.

THE "IDENTITY OF THOUGHT" CLAIMED IS NOT SUSTAINED BY THE RECORDS.

I will first quote from Dr. FREKE the whole passage quoted in part by Mr. HINTON, marking those portions which he left out, by enclosing them in brackets. How those portions came to be left out, when the reader is called upon "*at once* to recognize the identity of thought," and that, too, "behind the peculiar phraseology," "I do not know."\*

Death is essentially a part of life. It is the transit of the organizing influence from the organizing atom which causes that atom's death. It is the transit of the same organizing influence to that atom's type which gives to that type its life. But it is *during*, and alone during such transit, that conjointly the two atoms live. [Abandoned by the organizing influence, the elements of the old atom, now unfettered by opposing forces, become amenable to inert matter's laws—in a word, become inert; and this it is which constitutes its death. Controlled by the same organizing influence, the elements of the new atom assume the organized condition; in a word, become possessed of and adapted for imparting life; and this it is which constitutes it an organizing atom. But as it is while, and only while, the parent atom is resigning that influence which caused it to be an organizing atom, that such atom can be said to be dying; so it is while, and alone *while*, the offspring atom is receiving the same organizing influence, that it can be said to be living; and] thus are two essentially

\* See "Reflections on Organization; or Suggestions for the Construction of an Organic Atomic Theory." By H. FREKE, A.B., M.D., etc. Dublin, 1848. 8vo., pp. 80. [I received from Mr. HINTON Dr. FREKE's volume of 1861 on "Origin of Species." Did he send me this to prove that Dr. FREKE preceded me in another volume of 1848? Thanks to Dr. FREKE, I have since received from him his work of 1848, from which the quotations are made.



distinct and opposite processes, of necessity, concerned in producing the phenomena of active life; [are, of necessity, in operation for the production of what we imply when we say of a thing "it lives;"] and thus, too, it becomes apparent how death is essentially a part of life, [how "in the midst of life we are in death."]—Page 45.

The *truth* of the doctrines contained in the above quotation is not under discussion. How, "behind the peculiar phraseology," Mr. HINTON made out to find an "identity of thought" with the doctrines which both he and I "took endless pleasure in applying to all the details of vital phenomena," "I do not know."

But let us see what Dr. FREKE himself really meant: after a careful study of his whole work, I may say, to gather his true meaning, so far as relates to the point at issue, it seems scarcely necessary to go outside of the above quotation, especially that part of it contained in brackets.

1st. He assumes an "organizing influence" or "agency," and, as such, capable of "*transit*," as heat, from a hot body. He makes his organizing agency antagonize chemical force.\* The *abandonment* of this "organizing influence," and thus the surrender of organic matter to chemical forces, "constitutes its death." Thus decay or decomposition is the logical *consequence* of this "abandonment" or transit of the "organizing agency."

2d. He makes this "organizing influence" or "agency" a special "creation."

Each organizing atom is, we conceive, compound, that is, composed of a (it may be an inconceivably minute) combination of several distinct species of mineral matter, to which combination, at the *atom's creation*, was imparted the organizing agency to constitute it an organizing atom.—Page 26.

If such be a correct representation of the process of organization, the period during which life can be manifested by organized beings must, generation after generation, be gradually becoming shorter and shorter, until at last organized beings shall cease to exist. For we have seen that the organizing agency, as it is being propagated from parent to offspring, is gradually sustaining a diminution in its degree of concentration; a portion thereof only of that which was possessed by the parent being transmitted by that parent to its offspring or type.—Page 26.

The arrangement in the relative positions of those constituents is, as we have seen, essentially distinct from that which their own specific attributes as inanimate matter would bring about; while it was, as we have endeavored to show, the organizing influence *originally conferred at its creation upon that atom's first parent*, and at length, through succeeding generations, propagated to it, which constitutes this distinction in the arrangement of its components.—Page 38.

3d. He makes the appropriate food or nutritive material for each organism, the "reciprocal" or "specific stimulus" for "calling into active operation" the "organizing agency":

We called attention, when observing on the general forces which give motion to inanimate matter, to the necessity we conceived there to exist for the operation of what we called that matter's reciprocal or stimulus, before the action of such forces could be manifested. Our object in so doing was to point to a similar necessity, which we regard as existing,

\* See page 22: "To that great power which during the struggle of vital activity, antagonizes with chemical force, we would apply the term, organizing agency."

for the operation of an analogous reciprocal or stimulus, before the action of the analogous general force, the organizing influence, can manifest its active operation.—Page 35.

If, then, this law of reciprocity or of specific stimulation be universally applicable to all operative forces, we should expect to find each organism constructed for conferring organization; that is, each link in the chain of our organizing atoms must be provided with some distinct specific stimulus, which is capable of calling into operation its functional action. In other words, before any organizing atom can confer its organizing agency upon matter, that atom must be exposed to the influence of its own specific stimulus, so that for each link in the great chain of progressively advancing organizing atoms, we must look for an appropriate stimulus; constituting, collectively, a corresponding chain of progressively advancing excitants or specific stimulants.—Page 37.

The first link in the chain of stimulants is mineral matter. . . . The last link in the chain of stimulants is some highly elaborated organized product, which may arouse that atom to the discharge of its functional operation—some highly organized structure upon which the last atom can confer an increased organization.—Page 41.

"Behind the peculiar phraseology" in this, is meant: In a flour mill, wheat is the "reciprocal" or specific stimulus to call into "active operation" the *flour producing* "agency" or "influence," and thus the coal under the boiler, "unfettered by opposing forces, becomes amenable to inert matter's laws," and consequently it begins to burn, or is converted into carbonic acid by combining with oxygen. I—and I *did* suppose Mr. HINTON agreed with me—understand that all the various motions of the mill are reciprocal with the burning of the coal under the boiler; that the burning of the coal is the logical *antecedent* or motor of all the active operations of the mill; that the *special mode* of operation is due to the form. Though flour could not be made without the appropriate grain, to be sure, yet, to say that the *grain* is the "reciprocal" or "specific stimulus" to call into active operation the flour-producing "agency" of the mill, is *scarcely* identical with my views.

This claim of identity instituted by Mr. HINTON appears so farcically absurd that serious argument would seem inappropriate. To adapt myself to the occasion, therefore, I will even resort to parody, in order to point out the *difference* in the most glaring light. If one were to attempt to explain the phenomena of the clock in the same mystical manner, he would say: The downward movement of the weights is essentially a part of clock movement. It is the *transit* of the time keeping influence from the weights which *causes* the weights descent. It is the *transit* of the same time keeping influence to the clock which gives to that clock its time keeping property. But it is *during*, and alone during such transit, that conjointly the two keep time. *Abandoned* by the time keeping influence, the elements of the raised weights, *now unfettered by opposing forces*, become amenable to inert matter's laws—in a word, become inert; and this it is which *constitutes* their downward movement. *Controlled* by the same time keeping influence, the elements of the clock assume time indicating relations; in a word, become possessed of and adapted for imparting the time of the day; and this it is which constitutes it a time keeping instrument—this is what gives it time keeping properties. But

as it is while, and only while, the raised weights are resigning that influence which caused them to be a time indicating agent, that such weights can be said to be descending: so it is while, and alone *while*, the clock is receiving the same time-keeping influence can it be said to be keeping time; and thus are two essentially distinct and opposite processes, of necessity, concerned in producing the phenomena of active keeping time; are of necessity, in operation for the production of what we imply when we say of a thing, it keeps time; and thus, too, it becomes apparent how the downward movements of the weights are essentially a part of the time keeping process, how in the midst of time keeping the weights are descending.

Now, in plain English, I would say that the gravity or "downward" tendency of the weights is the *logical antecedent* to all the various motions of the clock—that the motions of the clock are logically *consequent* upon the descent of the weights, and that the *speciality* of the motions of the clock indicated in its keeping time, is due to the adjustment, to the arrangement of parts, to mechanism. And, as there is no time indicating agency "radiating" from the weights, so I would say that decay or disintegration or a "downward" process, in the logical *antecedent* of life, with which *all* the various "vital" motions or processes are logically *consequent*—the speciality being determined by form or organization. Is there any ambiguity in that? Can any one misunderstand it, or confound it with any "thought" not identically the same? I mean to say universally, that reaction is equal and opposite to action and logically *consequent*—that while the motions of the two ends of the lever are synchronous, yet, if moved by weights, the downward movement is the logical antecedent, and the upward movement, the logical consequent. There is no "agency" or "influence" to resist the downward movement of the long end, but through the adjustment, gravity at one end is resisted by gravity at the other, and though the directions of the motions of the two ends are opposite, yet gravity is the common motor. Though there is a "lever principle," or principle of the lever, yet there is no lever "agency" or "influence" which "radiates" from the long end and thus leaves it amenable to the laws of gravity; the short end of the lever is not a "reciprocal" or "specific stimulus" to call into "active operation" the lever "agency or influence."

If Mr. HINTON's presentation of his views of life in 1858 and in 1862 should be as indefinite and as wanting in logical precision as shown in the claim instituted in his late letter, it is not at all strange that he "did not find that the idea attracted any attention in England," and that he "met with several persons who could not clearly see the difference between it and previous ideas." In the history of science every great advance has been marked by a prelude of greater or less length in which some idea is coming to the surface and seeking expression without apparent result. It may fail again and again, even for generations it may be, but at last it will rise in all the beauty of truth itself, and *will* take upon itself a living form and definite expression. This definite expression and living form which the idea at last takes upon itself marks the epoch. Then comes the "clearing up" period, in which the clear truth dispels the

previous confusion and indefiniteness, and is practically applied in all its various relations. When the correct idea of life shall receive appropriate expression, then all action and all life will be seen pointing towards it; for all action and all life are born of the pregnant womb of one nature. Spirit is the father,—the mother, passive, plastic earth: all forms are at once offspring and parent; a ceasing or dying on one side—a becoming or birth on the other.

As stated in the beginning, I much regret that Mr. HINTON saw proper to institute so absurd a claim in his letter. I regret this, because it would imply that either my views of life, or Mr. HINTON's, or both, are very indefinite; but more especially I regret it because the manner I have thought proper to reply to that claim may be supposed to reflect upon Dr. FREKE. Any such supposition would be unjust and incorrect; the claim is not instituted by Dr. FREKE. The objects of his work of 1848 and of mine of 1851 were altogether different. As the title indicates, his work was "Reflections on Organization; or Suggestions for the Construction of an Organic Atomic Theory." If Mr. HINTON had seen proper to institute the same claim for SHAKESPEARE or Lord BACON, I would probably have answered it in the same manner, which by no means would reflect my opinion of the success with which they accomplished their respective objects. In his "Appeal" of 1862, Dr. FREKE himself claims that four Englishmen have since made public the same doctrines, as new, which he published in 1848; and that while they have received much credit, he himself has remained unnoticed. I would merely suggest, if Mr. HINTON is desirous at this *particular* time "to do justice to a citizen of a Sister Isle," might it not be well for him to begin at home and inquire into the justness of the claims made by Dr. FREKE himself? If Mr. HINTON will not do this, and if he can not sustain the claim he has made, Dr. FREKE may well exclaim, "deliver me from my friends"? One's just cause is little less damaged by the introduction of a fictitious claim than by ignoring just claims.

It is true, as stated in his letter, that Mr. HINTON in his "Life in Nature" of 1862 says: "The first suggestion of this view" "appears to have been made by Dr. FREKE of Dublin, 1848." By "this view" in the above quotation is meant, as shown in his letter, "the doctrine of the dependence of life on decomposition." But as the word "dependence" as used is quite ambiguous, we must try some other expression. When lead is placed upon water, the water gives way and the lead sinks, synchronously, and it may be said, loosely to be sure, that the sinking of the lead is *dependent* upon the giving way of the water, but the greater specific gravity of the lead is the cause and the logical *antecedent* of the whole movement. So it may be said that the descent of the long end of the lever is *dependent* upon the ascent of the short end, that is, the one could not be without the other; thus it is seen that the word "dependence" does not indicate which is the cause or logical antecedent and which the consequent. That life and decomposition are correlated in a living organism, was the common property of the profession when both Dr. FREKE and I first wrote. But the answer to the question *why* and *how* are

they correlated? is not as yet the property of the profession, in fact, is the question now involved in this controversy; I, and as I supposed, Mr. HINTON, contended that decomposition or the "downward" movement is the cause or logical antecedent. Dr. FREKE contended that decomposition is the logical consequent,—the chemical forces being "unfettered" by the "organizing agency;" the "correlation theory" contended that decomposition is the logical consequent as the organism becomes unable to convert the physical into vital forces. Where is the identity of thought in these different views? When Dr. FREKE and I first wrote, the answer which some gave to this question was that waste or decay is the "*wear and tear*" from vital action; but most then contended that the vital force being called off to perform its specific functions, left the organic compounds unprotected and "amenable to inert matter's laws," and hence the decay or decomposition is proportional to life. Wherein this last essentially differs from Dr. FREKE's views of 1848. I cannot see,—it certainly cannot be the "notion" which both Mr. HINTON and I "took endless pleasure in applying to all the details of vital phenomena." In his article on "Inflammation," before referred to, Mr. HINTON says: "If, then, both these changes" (increased decay and increased vital action) "be essential to inflammation can there be traced between them any other connection than that of co-existence? Are they related as cause and effect? I answer: "they are related as cause and effect; the increased decomposition is the *starting point*; the increased vital action is *secondary* and dependent." This is the key to his theory of inflammation, and so far as it goes, I call it a very definite statement of my own views, and if Mr. HINTON can point out any statement of the same views in Dr. FREKE's work of 1848, I will be most happy to make proper acknowledgment.

Though there is doubtless a great revolution going on in our ideas concerning "Life," nevertheless, from this discussion it would appear that the ideas upon that most important subject are as yet very indefinite. Upon one side it is contended that the doctrines which I have taken much interest in, are only a "modification or change of form" of the correlation theory: and now, on the other hand, it is contended that the theory of Dr. FREKE of Dublin is identical with them. While it is not an object in this controversy to discuss the merits of our respective doctrines, yet it is an object to clearly define my own, and sacredly to protect them from that looseness and latitudinarianism with which they seem to be viewed by those who, I supposed, most nearly agreed with me.

When Dr. FREKE made this generalization in regard to physical force,—that it requires a "reciprocal" or "specific stimulus" "to arouse it from dormant inactivity to operative action;" and when he extended this conception, in the earlier pages of his book, to vital force or to his "organizing agency," if he had stopped just there to reduce this conception to its absolute form, it seems to me, he would have found *his* "organizing agency" and *his* chemical forces, in the very attempt to grasp them, to have slipped through his fingers. So soon as one attempts to define *force*, if he will carry that definition to its absolute form, it occurs to me he cannot but find, as the word *definition* itself implies, that *force* itself is

in negation,—is through mediation; that neither matter nor force is in itself, but in not-itself. If he had done this, which he did *not* do, he could scarcely have missed seeing in 1848 what I wrote in 1851 :

The seed does not possess vitality, in any sense of the word, before germination: it does not even possess *life force*, either dormant or in action, for life is only produced when it is under the influence of certain external agents [conditions], and, therefore, life force is the *resultant* of forces as directed by the seed under the influence of these external agents [conditions].

*His* chemical forces which he supposes to be antagonized by *his* "organizing agency," would also probably have vanished, and he would have seen it as I expressed it in my thesis :

We have the same reason to suppose that there is a natural tendency in water to resolve itself into its constituents, as to suppose that there is a natural affinity between oxygen and hydrogen, *independently of external circumstances*.

I would say the same in regard to the theory of "the correlation of the physical and vital forces," as intimated in a previous publication. But however this may be, and in whatever form the truth may be found ultimately to clothe itself, it is not even now easy to comprehend how the one can be confounded with the other of these views, consistently with exactness of thought. While it is not proposed to discuss the *truth* of those doctrines of life which I believe, in connection with this controversy, yet it may be remarked, as before intimated, that I hope soon to present them to the world in a more connected and definite form.

I can not close this letter without expressing my sincere regret that there should have been occasion for this controversy. If my thesis had not been republished in the *American Journal of Medical Sciences*, July 1852, to a sufficient extent to make the doctrines clear, I might not say, as I now do, that any insinuations as to the "way" "Dr. WATERS came before the English public" seem to me quite out of place in such a discussion as the present. As I had toiled on quietly and privately with my studies for seventeen years, until I was being injured at home by my silence, I can not charge myself with precipitancy. And while I regret the occasion for this letter more especially, I only hope that it will be understood and received in the spirit in which it was written, and, having come to a mutual understanding, that we will become co-operators in the great work which we have each recognized as before us. If it shall meet with this result, and if I have made it an opportunity to more clearly define my own views, I will be satisfied. We may rest assured that the work is as yet not *done* by any of us, and, in all probability, it will not be by all of us. But we may hope, with scientific truth alone as our common object, at least to make firm one more stepping stone for those who come after us.

Very respectfully yours,

J. H. WATERS, M.D.,

*Prof. Phys., etc., Missouri Med. College,*

*President of the St. Louis Medical Society.*

ST. LOUIS, December 15, 1868.

METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1868.

Day of Month.	NOVEMBER.		Day of Month.	DECEMBER.	
	Minimum.	Maximum.		Minimum.	Maximum.
1	34.0	47.5	1	31.5	40.5
2	33.5	57.5	2	24.5	39.5
3	40.0	67.0	3	29.0	41.0
4	44.5	64.0	4	32.0	35.5
5	34.5	49.0	5	32.5	36.0
6	34.5	62.5	6	33.5	34.5
7	48.5	71.5	7	21.0	32.5
8	60.5	75.5	8	15.0	26.5
9	43.0	60.5	9	3.0	18.5
10	31.5	44.0	10	0.0	13.5
11	28.5	46.5	11	-11.0	7.5
12	31.5	57.5	12	-0.5	25.5
13	38.5	60.5	13	15.0	33.0
14	41.5	64.0	14	23.5	43.5
15	47.0	61.5	15	28.5	38.5
16	31.0	57.0	16	26.5	38.0
17	26.5	34.5	17	29.5	47.0
18	28.0	33.0	18	33.5	51.5
19	26.5	31.0	19	39.5	56.5
20	28.5	40.0	20	37.0	54.0
21	31.5	37.5	21	31.0	43.0
22	32.5	42.5	22	13.0	30.0
23	25.5	41.5	23	9.0	20.0
24	32.5	42.5	24	3.0	18.5
25	40.0	46.0	25	10.0	30.0
26	37.0	47.0	26	23.0	33.0
27	30.0	47.0	27	22.0	39.0
28	34.5	53.0	28	25.5	34.0
29	32.5	64.0	29	26.5	31.5
30	34.0	44.0	30	26.5	34.5
Means....	35.4	51.6	31	32.0	37.5
			Means....	21.5	34.3
Monthly	Mean...43.5		Monthly	Mean...27.9	

**REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.**

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM  
MORNING TILL NIGHT, AT ST. LOUIS, MO.

*1.—Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 8 years.	No. of Thunder Storms.	Prevailing Winds.
1868	Nov.	4.2	4.8	5.1	2.3	5.4	3.8	4.3	8.8	0	SE., NW.
1868	Dec.	6.8	7.1	4.5	5.9	8.3	5.3	6.3	9.1	0	NW., SW., NE.

*2.—Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1868.	November.	39.5	42.2	49.1	49.7	45.6	43.5	44.9
1868.	December.	25.9	27.8	32.6	33.8	30.2	29.3	29.9

*3.—Monthly Mean of Relative Humidity.*

1868.	November.	81.1	70.1	58.7	59.2	66.9	72.6	68.1
1868.	December.	88.9	75.8	65.7	62.9	76.1	81.4	75.1

November was, as usual, a mild, pleasant month, a continuation of Indian summer. Its mean temperature, 43.5 deg., differs scarcely from that for 30 years, which is 43.4 deg. The quantity of rain in November amounted to but 2.04, while the average is 3.16.

December, that presents us often with fair weather until Christmas, acted this year the part of Jack Frost so thoroughly, that the present generation has probably not seen its like in St. Louis. On 24 days the minimum thermometer fell below freezing point; on the 11th even as low as —11 deg. Fah., which is 4 deg. lower than has, within 33 years, been observed for this month in St. Louis. The average for the month also, 27.9 deg., is far lower than its general average, 33.8 deg.; while the quantity of rain and snow, 3.09, approaches its average, 3.16. Rough northwest winds prevailed, and frequent snowstorms spread over the whole country, followed by a wave of such intense cold, that the thermometer is reported in some localities to have been depressed to —20 and 30 deg. Towards the end of the month it became somewhat milder. *Requiescat in pace!* but people generally will recollect him as a winter ruffian.



**YEARLY REPORT OF ATMOSPHERIC ELECTRICITY,  
TEMPERATURE, AND HUMIDITY, FROM OB-  
SERVATIONS MADE AT ST. LOUIS, MO.**

By A. WISLIZENUS, M.D.

1.—*Monthly Mean of Positive Atmospheric Electricity in 1861-1868, based on daily observations at 6, 9, 12, 3, 6, and 9 o'clock, from morning till night.*

**ATMOSPHERIC ELECTRICITY.**

YEAR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861.....	16.5	12.1	9.8	8.8	7.8	4.0	3.7	3.4	3.0	7.1	10.0	14.3	8.4
1862.....	12.1	16.0	9.4	10.6	7.5	3.0	2.2	2.3	3.0	7.7	12.6	13.0	8.4
1863.....	10.9	15.9	13.0	8.8	4.7	3.0	2.8	4.4	4.8	12.5	12.1	11.5	9.3
1864.....	15.8	11.3	11.0	8.5	5.1	4.0	2.3	0.9	1.8	5.4	6.6	9.0	6.8
1865.....	12.2	9.5	5.9	3.5	2.4	3.4	2.6	5.9	1.3	5.3	10.1	6.4	5.7
1866.....	5.9	8.1	6.7	3.3	3.3	2.1	2.4	1.1	3.3	7.0	10.2	7.0	4.5
1867.....	9.2	8.2	6.7	3.3	3.0	2.8	2.7	2.3	5.5	3.0	4.2	4.2	3.6
1868.....	4.1	5.0	2.5	1.7	1.1	0.4	0.5	0.4	1.4	2.6	4.3	0.3	2.5
Mean.....	11.1	10.8	8.0	5.9	4.3	2.7	2.4	3.4	2.7	6.3	8.8	9.1	6.3

2.—*Monthly Mean of Temperature and Relative Humidity in 1861-1868, based upon daily observations contemporaneous with those of Atmospheric Electricity.*

**TEMPERATURE.**

YEAR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861.....	32.2	40.4	44.8	53.1	64.1	76.9	77.5	78.6	69.1	57.9	46.0	39.7	57.1
1862.....	28.0	30.2	43.2	55.0	69.7	75.1	81.2	80.7	72.1	57.3	42.6	41.3	56.4
1863.....	36.8	35.7	43.6	57.4	65.5	71.9	77.2	77.5	69.2	48.0	43.7	35.9	55.2
1864.....	29.2	38.3	40.7	51.4	69.4	78.9	83.5	78.8	72.9	53.1	44.9	30.4	50.0
1865.....	28.1	38.4	46.7	56.8	68.8	80.7	77.7	78.1	77.8	58.8	48.0	30.8	57.5
1866.....	32.2	33.4	42.2	61.2	66.3	75.3	82.2	76.8	64.0	59.3	46.6	33.3	56.0
1867.....	25.4	39.1	34.1	56.7	61.1	76.9	81.3	81.4	68.5	59.6	49.2	36.1	55.8
1868.....	26.0	35.8	51.6	53.6	68.4	76.9	88.0	77.2	65.7	56.5	44.9	29.9	56.2
Mean.....	29.8	36.4	43.4	56.3	66.7	76.6	81.1	78.6	69.9	56.3	45.7	34.7	56.3

**RELATIVE HUMIDITY.**

YEAR.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Mean of Year.
1861.....	72.2	63.3	64.5	61.5	66.3	70.8	66.3	69.6	77.3	76.6	69.0	74.3	69.5
1862.....	85.3	73.9	70.8	67.0	57.3	67.0	66.8	64.3	74.2	67.2	69.5	74.6	69.8
1863.....	79.2	81.7	68.1	57.2	59.4	67.7	68.6	70.7	68.2	74.4	67.4	79.5	70.2
1864.....	75.6	62.7	70.0	69.8	56.4	61.5	62.8	69.0	64.1	67.9	74.2	75.5	67.4
1865.....	74.6	72.0	66.1	66.8	62.1	67.9	77.4	71.7	76.8	74.1	62.3	78.8	70.9
1866.....	75.1	70.6	69.1	60.6	59.7	66.0	68.2	66.7	81.8	71.7	72.5	76.8	69.9
1867.....	76.2	73.5	75.7	59.1	61.4	64.8	63.9	60.0	63.7	67.9	64.9	77.6	67.4
1868.....	72.4	68.6	67.7	61.9	64.7	60.7	61.7	61.8	72.9	69.7	68.1	75.1	67.1
Mean.....	76.3	70.8	69.0	63.0	60.9	65.8	67.0	66.0	72.4	71.2	68.5	76.5	69.0

3.—*Yearly Mean of Positive Electricity, of Temperature and of Relative Humidity of the atmosphere at the hours of 6, 9, 12, 3, 6 and 9, from morning till night, based upon daily observations at those hours in 1861—1868.*

## ELECTRICITY.

Year.	6. A. M.	9 A. M.	12 M.	3. P. M.	6. P. M.	9 P. M.
1861	8.5	9.9	9.0	7.7	8.5	6.8
1862	8.9	10.0	9.1	7.3	8.1	6.8
1863	10.5	10.6	10.0	7.5	9.1	7.4
1864	7.9	8.8	7.4	5.4	5.9	5.5
1865	6.4	7.1	6.0	5.3	5.4	3.8
1866	5.5	6.2	5.2	4.5	5.2	4.4
1867	5.2	5.6	4.9	4.2	4.3	3.8
1868	2.7	3.0	2.7	2.2	2.5	1.9
Mean :	6.9	7.6	6.8	5.5	6.1	5.0

## TEMPERATURE.

1861	48.9	54.9	61.6	63.6	59.3	54.3
1862	48.9	55.0	60.9	62.3	58.0	53.6
1863	47.5	53.6	39.7	61.0	57.2	52.2
1864	48.0	54.1	60.5	62.2	58.1	53.0
1865	50.4	55.8	61.8	63.3	59.3	54.7
1866	48.4	54.6	60.3	61.9	57.9	53.4
1867	48.4	54.2	60.0	61.4	57.4	53.3
1868	49.2	54.8	60.4	62.1	57.4	53.5
Mean :	48.7	54.6	60.6	62.2	58.1	53.5

## RELATIVE HUMIDITY.

1861	86.4	71.3	60.3	57.2	65.1	77.3
1862	85.3	70.6	60.0	57.5	67.6	78.0
1863	86.8	71.4	60.2	58.0	66.7	77.9
1864	83.9	69.3	57.7	55.0	64.0	74.8
1865	84.7	71.7	61.3	59.0	68.3	78.9
1866	84.9	70.1	60.6	58.6	67.4	78.8
1867	83.1	68.4	57.9	55.0	64.6	75.4
1868	80.5	68.1	57.9	55.9	65.0	75.4
Mean :	84.4	70.1	59.5	57.0	66.1	76.9

THE SAINT LOUIS

# Medical and Surgical Journal.

MARCH 10, 1869.

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## Original Communications.

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CLINICAL LECTURE

### *ON INDICATIONS FOR TREATMENT IN INFLAMMATION.*

Delivered before the Class of the Missouri Medical College, Dec., 1867.

By J. H. WATTERS, M.D., Professor of Physiology, Pathology,  
and Clinical Medicine.

GENTLEMEN :

You are asked to-day to direct your attention and thoughts to the indications for treatment in inflammation. The varieties of external inflammation, as they have occurred in this hospital during the last few weeks, have been presented for your observation. The morbid anatomy of inflammation, and of such varieties of the disease as you have been called upon to observe, have been considered. The inflammations of internal parts are, as you will at once apprehend, subject to like variations with those externally observed. Inflammation, though genetic, includes different species and varieties, and appropriate treatment is subject to like modifications. I therefore desire, in anticipation of

explanations for the treatments adopted in individual cases, to develop those leading principles through which the different courses of treatment are determined.

There has been handed down to us, with the authority of time and of great names, a plan or system of treatment termed "the antiphlogistic." This consists in the more or less free use of the lancet, of purgatives, of antimonials, of mercurials, etc., etc. Before entering upon the consideration of the merits of this time-honored system, I may venture to state that it is quite improbable, prior to proof, that such energetic measures in the treatment of inflammation should have obtained so long and so universally in our profession unless it contained much of truth. And, on the other hand, it may be affirmed to be altogether improbable, prior to proof, that so powerful and general a reaction against it as exists at this time in the profession, should have obtained unless it also contained much of error. It is certainly desirable, even essential, if we would treat disease judiciously, to detect the truth, that we may use it and avoid error,—that we may practice no system, as such, but be guided only by the truth in whatever system found.

In this reactionary movement against the old antiphlogistic system, just alluded to, certain expressions are constantly used which almost seem to be thought talismanic; such as, "the vital power must be upheld," and "promote the natural curative processes." Be not deceived; they are but empty categories; they are but gum elastic bags, and dangerous because of their capacity to receive such content as one may chance to have. Has it not been the object of every honest physician, whatever his plan of treatment, to uphold vital power, and to promote the natural curative processes? unless indeed there should turn out to be some *unnatural* curative process! The old system is depletory, but like tides, the reactionary movement is running to an opposite extreme, and may be called the *stuffing* treatment. One might almost think that it is now supposed that "vital power" is in some mysterious way stored up in beef tea

and whisky. But is not the vital power upheld by the helping hand extended to the drowning man? Is not the vital power upheld by shelter and clothing furnished the freezing? Does not the surgeon uphold the vital power by opening the trachea of one suffocating from obstruction in the glottis, no less than by giving beef tea and whisky to the starving? We would seem, then, scarcely to have received anything either definite or new in the advice to uphold vital power and to promote the natural curative processes. How that is to be done in the particular case is still the question, as it ever has been, and it can never be answered by charmed phrases more than by fixed systems. Beef tea and whisky are often indicated no doubt, but that, as with everything else, depends upon the particular conditions; *abstractedly*, they no more contain *vital* power than does water or air. As the vital power is upheld by many conditions co-operating, so the sustaining and stimulating treatment may be *antiphlogistic*, or a depleting treatment may *uphold* vital power and *promote* the natural curative processes. If one is being drowned, make haste to take him out of the water; if he is famishing of thirst, put water into him,—what might kill may cure. When, where, and how to act vigorously, and when, where, and how to vigorously *not* act, are the questions of moment to you as students of medicine.

From a supposed resemblance of the disease we are now considering, in some important points, to a *flame*, it has been termed *inflammation* (*inflammatio*: *in flamma*). Since LAVOISIER, about one hundred years now, it has been known that a flame or a burning depends upon chemical action; usually upon the combining of oxygen with some other element. Now it is known that though this chemical action may not be so violent as to produce the phenomena of *flame*, yet an equal amount of external disturbance is caused by the same amount of chemical action, how slow soever it may occur. Hence it might naturally be suspected that inflammation depends upon similar chemical

action. But this rests not now as a mere suspicion or conjecture; we now know not merely that it is so, but also that it must be so—that it could not be otherwise. We know in chemistry as in mechanics, that action can not be without reaction; that something can not come from pure nothing. We know that there can not be an upward movement without a corresponding downward movement,—that the spring can not produce effect without recoiling. We are beginning to recognize this as an absolute necessity, and let him who takes issue ransack the entire domain of his *knowledge* and present one single exception. If he will not do this, let him not accuse me of visionary speculation. Though *he* can not do it, others will begin to suspect that he himself has been broken into the conceit of dogmas, and, as the ox, bows his more than willing neck to the yoke.

But the dependence of inflammation upon chemical action—upon oxydation—upon the recoiling or return of organic compounds towards the inorganic, does not characterize it or distinguish it from health. For we have seen in our physiological studies that every vital function, that all life, is equally consequent upon similar chemical actions. Neither does the *rapidity* of chemical action, abstractly considered, characterize inflammation, for we have seen that in health this rapidity corresponds to the organic functional activity, and is different in different organs and tissues, and daily varies in the same organ consistently with health according to the variations of functional activity. Certain principles, which have already been freely and extensively considered in the lectures upon physiology, lie at the basis of the more immediately practical principles which I propose to develop to-day. I will now merely state these in the form of propositions, in order to recall them to your memory.

*First.* Health is unity in multiplicity of activities. The word *activities* will remind you that the unity referred to is not an *aggregation* or mass, as a bushel of wheat is made up of grains, but an organic unity—a living unity—a unity

with continual change and individual ends conspiring to a common object. While each microscopic cell of the body lives for itself,—for its own ends,—yet, its life depending upon the whole, it lives for and by the whole. The perfect harmony of these reciprocal relations is perfect health.

*Second.* Disease is a diremption; a loss of the organic unity; an aberration; the common weal is no longer subserved by the individual ends. There is an open riot or rebellion.

*Third.* The object of the physician is to restore harmony by removing as far as possible the causes of disaffection, and by restoring to each part its legitimate demands, the essential conditions of life. His efficiency will depend much upon his appreciation of the laws of health, and through these laws, of his appreciation of the *modus operandi* of remedies.

As life depends upon chemical change or metamorphosis, so in inflammation the source of action is a corresponding destructive process. In inflammation the expenditure is beyond the income; the consumption exceeds production; the destructive process over-reaches nutrition. In health the balance between demand and supply is preserved; the waste, as the source of power, is compensated for by nutrition; the integrity of structure is preserved in the constant change. In inflammation the *capital* of life is encroached upon; the income does not equal the consumption; the integrity of structure is lost, and in its place we have the pathological anatomy of inflammation.

But, as has been abundantly shown, disease does not relate to the amount of expenditure abstractly considered, but to the amount of expenditure in *relation* to the income; to the loss of harmony in the relations of the conditions of life. In a well-regulated society, one who is wealthy may spend with advantage what would be fatal to one whose income is more restricted; so in the organism, a muscle, or nervous centre, which is most vascular and the income large, may spend normally what would give rise to the most

violent inflammation in cartilage or bone where the supply is scant. For similar reasons inflammation is most frequent in the most vascular organs, but is most serious in the less vascular, because their resources are proportionally more limited, and the increased demand can be met less readily. The waste which would be normal in the functional activity of a muscle, would be fatal to the mechanical and but little vascular structures of a joint. In the more vascular structures there are the more avenues to a disequilibrium, but in the less vascular structures the restoration of the equilibrium is less readily accomplished.

On the other hand, as disease does not relate to the amount of outlay or expenditure, abstractly considered, so, conversely, it does not relate to the absolute amount of blood which flows to a part, but to loss of the harmonious relations of the conditions of life. Though there is congestion in inflammation, congestion is not the disease; rather, the increased flow of the nutritive juices according to increased destructive change, within certain limits, prevents disease; and inflammation can only occur as the equilibrium or harmony of the vital conditions are not even thus preserved. It is certainly a very great mistake to suppose that congestion is a *leading* element in the disease, and it must give rise to bad practice. The congestion is *consequent* upon the increased chemical action, and its tendency is to preserve the vital conditions in harmonious relations. It does not always accomplish this desirable object, but such is its tendency; and through it, even in disease there is a "*vis medicatrix naturæ*." If the physician, whose *primary* object in the treatment of inflammation is to diminish the congestion and to lower the plasticity of the blood, could effect his object, he would so far lessen the processes towards recovery; but, fortunately, his therapeutics is as crude as his pathology, and frequently he may do good in spite of his theories, because he may diminish the congestion and plasticity of the blood *by* removing the excessive demand,—*by* lowering the destructive metamor-



phosis. He, then, assists in the cure of inflammation not because he has diminished the congestion and lowered the plasticity of the blood, but he has diminished the congestion and lowered the plasticity of the blood *because* he has lessened the burning—the inflammation. This is not in consequence of his theory, but in spite of it; nature is rigidly exacting, and regards only what is; it gives no attention to the theories with which medicines are administered. Good may be done through wrong theories, to be sure, but only by chance; hence science is most desirable, and not only desirable but essential, in order to insure judicious treatment.

Health, therefore, depending upon the harmonious relations of the conditions of life, can be preserved or restored only in accordance with these conditions. So long as they are in coaptation, or as the *relation* is maintained, so long health is maintained; and the possibility of disease is due to the fact that the normal relation of the conditions of life may be destroyed. The cure of disease is rendered possible only in the fact that these conditions may be restored to their proper relation. That course of treatment which tends to restore that relation, tends to "uphold vital power," and to "promote the natural curative processes;" or, in other words, if we would uphold vital power and promote the natural curative processes, we can do so only by promoting the restoration of the conditions of life to their normal relation. All the vital actions having their origin in, or depending upon, destructive metamorphosis, the increase of this chemical change would increase life action accordingly, *provided* all the conditions correspond. Within this range we have only *excitement* or increased functional activity; beyond, we have *inflammation*. We may term this state, bordering between mere excitement and inflammation, *irritation*. Inflammation, or the disproportionally excessive destructive metamorphosis, is of different degrees. Starting with irritation, the other extreme is destructive metamorphosis without nutrition. That is,

irritation marks the boundary consistent with health, and the different degrees of inflammation are relative to the excessive waste; when the supply or nutrition is cut off entirely, we have gangrene or sloughing. Then we find that the injurious results connected with inflammation correspond with the disproportional or disharmonious relation of the conditions of life, and that, in all instances, the result to be apprehended depends upon this want of harmony.

Then, seeing that the vital harmony of any particular organ depends upon the relations between the demand and supply, we do understand that this relation may be disturbed by causes either tending to increase the demand, or such as tend to diminish the supply; and hence we have what have been usually called sthenic and asthenic inflammations. The first, where the causes operate to increase the demand; the second, asthenic, where there is a diminution of the capacity of the system to make the proper return.

In either of these conditions we have inflammation, to be sure—that depending upon the disproportion of the supply and the demand. But in this disease, called inflammation, our treatment must correspond with the circumstances which gave rise to this disharmony.

If the disharmony is in consequence of excessive destructive change, the conditions of supply being normal, then we may with propriety use even depletory remedies to diminish the excessive chemical change or destructive metamorphosis; but if the want of relation is due to constitutional derangement and to the incapacity of the system, from poison or other cause, to furnish to the part its conditions of life, then our remedies must be directed towards furnishing to the part the necessary condition of its healthy life, which is nutritive material.

We have seen that life or health depends upon a multiplicity of conditions, corresponding or in harmony; and the actual disease, by whatever name it may be called, depends not only upon the surrounding circumstances that may give rise to it, but also upon the condition in which they find the

organism at the time. We may have one hundred men subjected to similar exposures, and they will be affected differently. One may have pneumonia, another pleurisy, another inflammation of the bowels or brain, etc., etc. While the exposure or external cause in these cases is identical, the disease is different according to the mode of receiving it; and thus we see from experience or observation, that the cause of disease not only relates to the specific causes but to the constitutional condition in which the exposure may find one.

Hence, in the treatment of inflammation, we must understand that there are two indications. One in the local affection, and the other in the condition of the general system in its relations to that local affection; whether the disease is dependent upon excessive destructive change in a part, or whether it is the more dependent upon the general system in not furnishing to it its necessary demands; and our treatment must correspond with this fact.

The treatment appropriate in every case will depend upon the particular circumstances connected with the individual case; and, in the first place, we must either direct our remedies to diminishing the destructive metamorphosis, or to increasing the nutritive process. In the beginning of a disease, where the nutritive processes are not interfered with, we may hope with reason to arrest or stop the disease by remedies which tend to diminish the metamorphosis, and to bring it, when occasioned by temporary circumstances, down to the supply. But if the disequilibrium, upon which the inflammation depends in part or mainly, is in consequence of derangements of the nutritive system, then our energies must be directed to supplying to the inflamed part the conditions of appropriate and healthy nutrition; to preserve or to restore health, the relation between demand and supply must be looked to.

In the first instance, where excessive destruction in a part has been occasioned while the system is in its ordinary healthy condition, our object first must be to diminish the

destruction, in order thus to cause it to correspond with the supply. But where the inflammation is more dependent upon the derangement of the system, when, with the ordinary consumption there is not a corresponding income, then we must look to the proper sources of supply or to the basis of the capital of life. In the first instance, we may with propriety look to the antiphlogistic treatment as a source of benefit. In the second, never; but rather to the husbanding of the capital already accumulated. In the first instance we may bleed and otherwise deplete. In the second instance, though we still have inflammation, bleeding, etc., etc., would certainly be inappropriate. Because, in the first instance, our object is to diminish the demand; in the second instance to increase the resources.

When the constitution is deranged and broken down, and the resources cut off, we must be careful how we make demands. We must then, in order to repair the trouble, encourage and cultivate the productive processes. But little can be gained by additional taxation upon the individual part for an additional supply; the supply coming from the totality, that is to be looked to, and here only can our energies and activities be beneficial.

But to pursue this subject a little more closely, let us remember that the blood—the common circulating fluid—in its ceaseless round, is carrying to all parts of the living body *two* essential conditions of life. One is the nutritive material, the other oxygen; the one is the source of income, the other the source of outlay—of expenditure; the circulation carries to every living part, in one hand the sword of destruction, in the other the balm to heal. And in this destruction and healing only is life. But in this conflict of life the slayer is slain, and he and his victim find a common grave. Hence, for the continuance of this struggle for “three score years and ten,” there must be a constant supply of both oxygen and nutritive material. And for this purpose, two separate systems are respectively set apart in the economy of our compound organisms; the one the digestive,

and the other the respiratory system. The nutritive matter coming from the digestive system, having been assimilated in its course, reaches the right side of the heart; thence it is sent to the lungs to receive oxygen; thus, double freighted, red and fiery, it returns to the heart, only to be hastened upon its two-fold mission to every part of the organism. The oxygen quickly does its work and is consumed; but the blood as quickly returns to the lungs for a new supply. This is the round of organic life. And while you do not forget in the treatment of inflammation the double function of the blood, and the two respective sources of its renewal, do not forget also that the oxygen is received in the blood mainly by one of its elements, the red corpuscles. This is an important consideration in treatment.

In the contest above alluded to, no advantage is gained by the oxygen, unless it should receive an ally in its destroying mission in the form of an "irritant,"\* or unless the nutritive power of the blood should be enfeebled, or both.

Then the first indication is to remove the irritant. If there is an external wound, exclude the admission of external oxygen far as possible, and lessen its burning tendency by cold application. You thus lessen the degree of inflammation by lessening the advantage gained by the oxygen of the blood over the nutritive element. If, however, the oxygen has an ally floating with it in the blood, as some foreign element, it is less easily regulated, and less readily removed. However, it is of the first importance to remove the irritant, whatever it may be; and such means should be used as are best calculated to meet that indication. When the irritant is in the blood, the emunctories must be looked to as the avenues of its elimination, and their actions can be regulated by the physician to some extent. These should always be examined into; if, how-

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\* Hereafter, in this lecture, the word "irritant" is used as here, that is, to designate whatever co-operates with the oxygen in producing destructive metamorphosis.

ever, they seem already doing their duty, one should be careful about interference.

The destructive process in inflammation, however, being the result of the co-operative action of both the irritant and the oxygen of the blood, much in certain cases may be done by means which regulate the oxygen.

*But recollect that neither the removal of the irritant nor the regulation of the action of the oxygen is to cure the inflammation, but to arrest it. The curing, the healing, can be only through nutrition.*

Blood-letting is one means of regulating the action of oxygen, and in *some* cases is demanded.

As the oxygen of the blood is determined in quantity by the red corpuscles, and as these are retained in the vessels while the nutritive juices transude into the tissues, the *immediate* effect of blood-letting is to diminish the red corpuscles, rather than nutrition and the plasticity of the blood. But as blood-letting does also remove from the circulation the nutritive juices, it is indicated and admissible only under certain conditions. As blood-letting can only arrest, but never cure inflammation, and so far as it diminishes the nutritive juices, is injurious, it is indicated only in the early stages, when by arresting its progress and diminishing the irritation, less nutrition will be necessary. And it is admissible, even in the early stages, only when the inflammation is due to irritation or excessive destructive metamorphosis, rather than to enfeebled or depressed nutrition. But when in a constitution otherwise healthy the disease is due to excessive destructive change, *to arrest its progress* free blood-letting is urgently demanded in the early stages, before the arrest of the circulation in the capillaries. After this, I believe it never admissible, and often seriously injurious. This belief is based upon the opinion that it could not then lessen the irritation, but it would lessen the nutritive juices by which alone the healing or repair can be effected.

When blood-letting is indicated as above pointed out, it is more especially demanded when the part affected is so

related to organs whose functions are essential to life, that but *little* change in it would prove fatal, as, for instance, the nervous centres or larynx; where serious and fatal results are feared, not from the inflammation immediately, but from the arrest of some function essential to life.

Under these circumstances you may reasonably hope, it occurs to me, to aid in arresting the irritation, and in giving nutrition an opportunity to heal. Under these circumstances, the "antiphlogistic course," generally, would be appropriate according to the principles which have been presented.

Much in the same direction, too, may be hoped by the use of remedies which tend to lessen the susceptibility of the tissues to the action of oxygen—to irritation. Something, too, might be expected from the introduction of substances into the blood which are more susceptible than the tissues to the action of oxygen. Thus the inflamed part would be so far protected. But we must not now dwell upon these points.

We must hasten now to consider more definitely the second indication in the treatment of inflammation—the supply of the appropriate plasma for nutrition. Even in the cases before noticed, where vigorous antiphlogistic treatment, so called, is indicated in the early stages, there quickly arrives a time when that must be discontinued—when nothing must be done which tends directly to lower the plasticity of the blood—when the treatment must be directed to the second indication. This condition already exists frequently before the patient is seen by the physician, especially in hospital practice. In very many cases it is from the very beginning of the disease. Especially is this the case with patients whose constitutions have been broken down by exposure, bad ventilation, bad diet, etc., and in all cases where the blood is contaminated by some specific poison, as in most cases of erysipelas, in typhoid fever, typhus fever, scarlatina, and the contagious diseases generally.

When this condition exists, whether at the beginning of the affection or after vigorous and depletory treatment, it is of the utmost moment to husband the capital of life which may happen to be on hand, with the most exacting care, for external resources are now cut off. To this end, nothing should be done in the way of medication to depreciate its value. There should be, far as possible, quietude of body and mind from the very beginning, for, as you know, every action of the organism involves expenditure. It is no less important that the patient should be kept quiet in bed, free from the excitement of visitors from the first, than when the crisis comes and friends are alarmed. After the income is cut off, whatever is wasted or spent uselessly at any time is just so much taken from the capital, and so much diminishes the chance of successfully passing the approaching crisis. A dime wasted at any time in this condition of things, is the same as that amount wasted at the critical moment, so far as relates to the result. Every contraction of a muscle, and every action of the brain, involves loss of substance and expenditure of force. And wherever this does not bring a return in the direction of the "natural *curative* processes," it is an absolute waste of the capital of life.

The conditions which are essential to preserve health are especially requisite in disease, viz., pure air, fresh water, and *wholesome* food. This last we will notice more at length directly.

The emunctories being the means of eliminating the impurities of the blood, they must be attended to under all circumstances, and regulated as the case may require and as our means may enable us to do.

Now as to wholesome food: pork and beans, beef, cabbage, and potatoes, are wholesome to the laboring man to "uphold his vital powers," though they might not be very wholesome to the sick. The wholesomeness of food, as everything else in nature, depends upon relations, upon conditions. Food is essential to the long continuance of



life, it is true, as all life is through destructive metamorphosis; but food of any description whatever can be converted into the plasma of blood only by certain "natural processes" of assimilation. Digestion is but the beginning of the process, to prepare it for absorption; but the materials absorbed are as yet crude and unfit for the purposes of nutrition. Then be not deceived into the notion that food, abstractly considered, "will uphold the vital power." Whatever is absorbed from the alimentary canal in the way of food, how nutritious soever it might be if properly assimilated, will only further tax the already overtaxed emunctories, if the assimilating glands in disease fail to convert it into appropriate plasma. In times past, cold water, that which of all things was most craved, was sedulously prohibited from a patient burning with fever. Now, with as little reason, so far as I can see, there is a growing tendency to stuff a patient with beef tea, etc., in whom the very sight or even thought of food causes disgust and nausea. When, in disease, the assimilating glands telegraph to the stomach that they can not do the work imposed upon them, and the stomach indicates the intelligence and its disposition to comply, the physician should be careful how he resists the mandate. Knowing the physiological relations of food, with these precautions, you will have little difficulty in feeling your way, and in adapting the administration of food, in quantity and quality, to the condition of the patient.

The use of alcohol in some form under this second indication is of great importance. Not as a "stimulant" is it important, but as developing power by combining with the oxygen of the blood, which would otherwise have involved the capital of life. True this is in itself a fictitious paper currency, but in a crisis, so far as it may substitute the real capital, it is of the utmost value. The credit may be thus sustained until there is an actual income through the digestion and assimilation of food.

In conclusion, I would remark that, to adopt that treatment appropriate for each individual case of inflammation,

it is essential to be guided by principles far back of the precepts, "equalize the circulation," or, on the other hand, "uphold the vital power" and "promote the natural curative processes." These are apt to lead to routine. If, indeed, the medical student should be determined to commit to memory rules to guide his practice, rather than to study and comprehend the laws and principles in physiology and pathology, then let him learn this last: uphold vital power and promote the natural curative processes! This would be likely to lead to less harm. But it is my candid opinion that he whose rules in his art are to him anything more than the dead forms of his living, plastic science, can with little propriety interfere in any way with the "natural curative processes." Of all the routine systems of practice, that which would do the least harm and the most good, in the long run, is,— is,— no practice at all.

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*CASES ILLUSTRATIVE OF SOME OF THE CHARACTER-  
ISTIC PHENOMENA ATTENDANT UPON CERTAIN  
REFRACTIVE ANOMALIES OF THE EYE.*

By JOHN GREEN, M.D., St. Louis.

*CASE I. Case of deficient refractive power (hypermetropia), of different grade in the two eyes, complicated with astigmatism.*

This case had been supposed to be one of incurable disease, tending rapidly toward blindness. The patient, B. W. H., is a professional gentleman, 28 years of age, residing in an adjoining State. The following extracts, from his first and second letters to me, give a vivid picture of his condition :

*October 8, 1868.*

"The doctors tell me that I have amaurosis of both eyes; my right eye is the worst, and is nearly blind; I have been troubled for ten or twelve years, gradually growing worse.

"I have not been able to do anything this summer; am a lawyer by profession, and my whole future depends on my eye sight."

*October 29th.*

"Your letter has given me some hope, and, at the same time, has made me feel very anxious to know more,—if anything *can* be done; I can not endure the thought of sitting down in darkness and despair at the age of 28 years.

"As early as twelve years of age I used to shade my eyes with my hand or hat when I read in the evening by lamp light.

"When about fifteen my eyes pained me very much after reading late at night, and I first noticed, about that time, that my sight would grow dim while reading in the evening, that the letters and lines would run together, and the whole page become blurred, especially if it was fine print.

"Then my eyes would pain me intensely through the eyeball, with pain also down the back part of my head; I used a green shade, and experimented with glasses—green, blue, and magnifying—but without avail.

"I worked along in this way, using my eyes harder than I ought, yet not doing one-half of what I wanted to, until the spring of 1861, my junior year in college, when I entered the army. At this time I was twenty years old. My eyes were very bad, so that I had had to give up the most of my night study and reading, and I now felt that same weakness, dimness, and blurring by daylight if I read until my eyes got tired, which I very frequently did. My eyes were weak, very weak, and I suffered from a continual heavy pain in my forehead, and the back part of my head and neck.

"I did but little reading while in the army, and have been able to do but little since my return. While on the Chickahominy and at Harrison's Landing, I almost died of chronic diarrhœa. When I had so far recovered as to be able to try to read, I found that my right eye had become partially blind, and that there were some black spots

[*muscæ volitantes*] shading the left eye. This was in the summer of 1862.

"I have never had *sore* eyes. My eyes look well, and have, throughout. They grow red if used hard, and have been so weak for so long, that I keep them half closed or more to shield them from the light.

"I can not read common print more than a minute or two at a time (unless it be in the morning after sleep) before the eyes become tired. My head feels dizzy and heavy, and the lines and letters become so blurred and confused, that I have to look off and rest my eyes.

"My eyes are not good at long distances, either. I can see about like other young men for a minute or two, and then my eyes grow tired. I can't 'look sharp,' as they say, either at long or short range.

"I can not write more than two or three lines without resting my eyes, and such writing as this does not require much eye sight.

"Black spots, and filmy shades and lines are always floating in the vision. With my right eye I can read nothing except it be very large block type; can scarcely read the largest signs with that eye across the street."

In reply to this second letter, I advised Mr. H. to come to St. Louis for examination, in the belief that his troubles were due principally to some refractive defect, and not to any disease. He called upon me November 20th.

I found in the right eye deficient refractive power, requiring a convex glass of twelve inches focus to enable him to see distant objects without the exertion of voluntary effort; in other words *hypermetropia* (H.) =  $\frac{1}{12}$ .

Conjoined with this deficiency in refractive power, was an inequality of refraction in different directions; in other words, *astigmatism* (Ah.) =  $\frac{1}{24}$ .

The direction of the corneal meridian of greatest refraction, corresponded to a line drawn upon a clock dial from X to IV, or, more nearly, to the position of the hands of

the clock at twenty-one minutes past ten, the meridian of least refraction being at right angles to the first, or in the position of the hands at six minutes past seven.\*

The left eye, examined in the same manner, revealed, *hypermetropia* (H.)= $\frac{1}{24}$ ; *astigmatism* (Ah.)= $\frac{1}{60}$ .

The corneal meridian of greatest refraction in this eye was vertical, that of least refraction, horizontal.†

On fitting the two eyes with combined spherical and cylindrical convex glasses, vision was at once brought to the normal standard for the left eye, and nearly so for the right eye; the test of perfect vision being the easy and accurate recognition of letters three-eighths of an inch in height (No. xx of Snellen's Test Letters) at a distance of twenty feet. With the right eye letters of the same size were distinctly read at a distance of fifteen feet.

The eyes were now tested in reading: *brilliant* type—the smallest type known—was read *fluently*, and *without fatigue*, at a distance of from eleven to thirteen inches from the eyes.

With a pair of ordinary convex spectacles, which corrected the hypermetropia only (twelve inches focus for the right eye, and twenty-four inches focus for the left eye), vision was still very good, but less perfect than with the compound glasses. Thus, the letters (No. xx) which had been read at twenty and fifteen feet with the two eyes respectively, were now distinguished only at fifteen and at seven and a half feet. With these glasses, however, the finest type was read at a distance of one foot.

*November 26th.*

Mr. H. now reads with his glasses six hours daily, spending most of his time in the reading-room of the library association. He has no pain or other unpleasant symptom, and reads the finest type fluently.

\* The whole anomaly of refraction in this eye may be briefly expressed by the formula: Hm.=1-12, Ah.=1-24, M°=-54°.

† This state of things is expressed by the formula: Hm.=1-24, Ah.=1-60, M°=0°.

*December 9th.*

A careful examination revealed the highly gratifying fact that, with appropriate spherico-cylindrical glasses, *brilliant* type could be read pretty well at a distance of seventeen inches, and fluently at twelve inches. On the next day Mr. H. returned to his home, wearing ordinary convex glasses of ten and eighteen inches focus respectively.

*December 28th.*

Mr. H. writes: "My health continues very good. My eyes are quite serviceable. It is such a luxury to be able to read, and not feel that old, deadening, paralyzing pain. My eyes have ached some since I came back, but nothing like the old pain. If I read steadily for some time, the cords of the back of the neck seem to grow rigid, and twitch and snap considerably when I move my head. This is not so bad, however, as it was, and it occurs only after holding my head steadily in one position for some time.

"I feel very grateful to you every time I take a book to read. I am already, in fact, a new man.

"The new spectacles [a pair of spherico-cylindrical glasses which had been ordered] have not yet arrived. I think they will be much better even than these I am wearing, if they equal those you experimented with."

*January 20, 1869.*

Mr. H. writes that he has been wearing the new glasses for about three weeks, and that they "seem to be answering all that was predicted of them."

He had been working very hard at professional labor since his return home, and complained of wakeful nights. Once, while working in the evening by lamp-light, having been up late the night before, "the old feeling came over me, and I had to go to bed. I shall endeavor to retire earlier in future.

"These glasses have just opened a new world to me, but I feel miserly now, and want to do everything that can be done to save my eye strength, both now and for the future."

In this case the disability, which operated so disastrously for ten years in thwarting a student's aims in life, was dependent *chiefly* upon the deficiency in refractive power, but was heightened by the concomitant astigmatism. Still, the attendant symptoms, pain in the head and eyes, were much more severe than are ordinarily observed in hypermetropia of the grade (1-18) present in the better (left) eye. The explanation of this fact is to be sought in some constitutional peculiarity such as we frequently observe in persons subject to headache, in whom any attempt to use the eyes may produce great exacerbation of the pain. Great excess in the use of the eyes, producing fatigue, will, doubtless, even now suffice to bring on pain in the head, but with this immense difference as compared with the former condition, that whereas without the glasses reading was impracticable for more than two or three minutes at a time, it can now be kept up for many hours daily; in short, the faculty of vision has been restored for all legitimate requirements of study, and in a very high degree of perfection.

617 LOCUST STREET. February 10, 1869.

*OPERATION FOR THE REMOVAL OF AN OVARIAN  
TUMOR, COMPLICATED WITH FIBROID  
OF THE UTERUS.*

Performed by Dr. THOS. ADDIS EMMET, Surgeon-in-Chief to the N. Y. Woman's Hospital.

Reported by WM. L. BARRET, M.D., late House Surgeon to  
the Woman's Hospital, and House Physician to the  
Nursery and Child's Hospital, New York.

Among the notes I have preserved of various cases that came under observation during my service at the Woman's Hospital, I find the following. The case itself presents several points of interest; but its attraction is enhanced by the fact, that it illustrates the method of operating adopted by Dr. E. R. PEASLEE, whose great experience and suc-

cess, and whose many valuable and original suggestions have made him so justly celebrated as an ovariologist; and, further, that it was performed by one of the most skilful and accomplished gynæcologists of the day, aided by the counsel and assistance of several other gentlemen whose talents have elevated them to places of distinction in the profession.

L. M., single, æt 50; a native of the United States, residing in New York city, was admitted to the Hospital, November 12, 1867. She first menstruated at 15 years of age. The flow usually lasted four days, and was always regular in time, and normal in quantity and quality, until six years ago. At that time the periods began to be irregular, scanty, and, soon afterwards, entirely ceased. About the time the menses stopped, a soft, round tumor made its appearance in the left iliac region, and at the same time it attracted her attention she discovered a hard, irregular body (which she describes as feeling like a bone) in the same situation on the opposite side. These tumors grew slowly but gradually larger for three years; then for the four months succeeding they increased very rapidly, and her abdomen had been fully distended for two years and eight months. A few days after admission she was examined by Drs. EMMET and PEASLEE. On examination per vaginam there was no leucorrhœal discharge; no pouching of the posterior cul-de-sac; but the mucous membrane of the vagina had a bluish tinge (like that ascribed to pregnancy), which was probably caused by venous congestions due to the pressure of the tumor on the large vessels of the pelvis. A hard, immovable mass was felt filling up the whole floor of the pelvis. The uterus could not be mapped out, and the os could not be felt or seen on account of the great elongation of the vagina, due to the pressure upwards, as the tumor, from increased size, rose higher in the pelvis. It was, of course, impossible to pass the sound.

External examination revealed two tumors which could be distinctly felt through the abdominal walls. The one



on the right felt hard and irregular, like a fibroid, and the one on the left smooth, soft, and fluctuating. Percussion practiced in the supine posture gave dulness over the surface of the abdomen and tympanitic resonance in the lumbar regions. Change of posture altered the line of dulness little, if at all, and when the patient rolled from side to side no wave was detected on inspection.

The history gave no evidence that peritonitis had ever existed, and she had at no time suffered much pain; but the base of the tumor was immovable on vaginal examination, and there was little, if any, change in the position of the tumor when the patient rose from the recumbent to the erect posture, and the abdominal walls did not roll freely over its surface. On palpation and percussion a single wave was detected in every direction over the fluctuating tumor.

**DIAGNOSIS.**—Single ovarian cyst, complicated with adhesions, and fibroid of the uterus.

November 20th.—Examined by Dr. GEO. T. ELLIOT, Jr., who corroborated the diagnosis already made, and agreed with Drs. EMMET and PEASLEE in the advisability of tapping the patient before resorting to an operation for the extraction of the tumor, with a view to ascertain what connection might exist between the fibroid and the uterus.

Dr. EMMET then tapped the patient. The patient, having had a bandage passed around the abdomen, was placed upon the side. An external incision, an inch in length, was made upon the linea alba, midway between the symphysis pubis and the umbilicus, the trocar introduced, and 6 1-4 gallons of clear, straw-colored liquid drawn off, containing albumen. The external wound was closed with four silver sutures, a bandage applied, a dose of opium administered, and the patient put to bed.

November 23d.—The House Surgeon removed the sutures. No unpleasant symptoms since the tapping. The solid tumor, which appeared to be connected with the fundus of the uterus, measured, from the umbilicus towards the

pubis, eight inches, and six inches in its transverse diameter. Examination per vaginam revealed the same condition as before tapping, except that the solid tumor had risen somewhat from the right side towards the median line.

November 27th.—The external wound had healed, and the patient was up.

December 2d.—Went home. When the abdomen has again become fully distended, Dr. EMMET proposed to extract the tumor.

Readmitted, February 19th, 1868.—The patient had dark hair, dark eyes, dark complexion, and was large and muscular, but looked weak, and her health and strength seemed much impaired by the malady from which she was suffering. She had that peculiar pinched expression of countenance which is said always to attend ovarian disease. The emaciation, the prominent, almost uncovered, muscles and bones, the expression of anxiety and suffering, the furrowed forehead, the sunken eyes, the open, sharply-defined nostrils, the long compressed lips, the depressed angles of the mouth, and the deep wrinkles around these angles, formed together a face which was strikingly characteristic.

Her habits of life had always been regular and temperate, and in her occupation (which had been that of a house-keeper) she had been accustomed to take considerable out-door exercise. The temperature of body was 98; the skin active, and of normal color; there was no glandular enlargement, and no eruption of any kind on the body; the veins of the abdomen and legs were a little enlarged, and a very slight œdema of the lower extremities could be detected when pressure was made along the anterior surface of the tibia.

The girth at the umbilical level was forty-five inches; the distance from the ensiform cartilage to the umbilicus, eleven inches; the distance from the right anterior superior spine of the ilium to the umbilicus, twelve inches; the distance from the left anterior superior spine of the ilium to

the umbilicus, thirteen inches ; the distance from the umbilicus to the pubis, thirteen inches.

The specific gravity of the urine was 1024 ; acid in its reaction, and contained no albumen nor casts ; the digestive functions were well performed ; she rested well at night ; the appetite was good, and the bowels regular ; there was no cough, no expectoration, and no physical signs of disease of the heart or lungs ; the respiration was 36 ; the pulse 100 ; there was no history of predisposition to any hereditary disease. She complained of a dull, aching pain in the back, sometimes extending down one leg, and sometimes extending down both, and of inability to take exercise or make any exertion on account of the exhaustion and dyspnœa they always occasioned.

The chances of recovery having been fairly represented, and the patient fully acquainted with the risk involved, was in excellent spirits, hopeful and anxious for the operation. After preparation for a week beforehand in Dr. EMMET'S usual manner, viz., by the administration of five grains of *fel bovinum* three times a day, and a large injection of the same substance at night (Dr. E. attributes much importance to the *fel bovinum*, used in the manner described, for the prevention of tympanitic distension) ; having been thoroughly rubbed every night, and having had an occasional warm bath, she was put upon the table for operation, March 2d, 1868, at 2 1-2 P. M.

She was clothed in flannel ; blankets were carefully wrapped around her, and the temperature of the operating room heated to 85° ; a piece of oiled silk, one yard square, with an elliptical opening made in the centre, and the edges fastened down to the abdomen (which had previously been uncovered) with strips of adhesive plaster, was spread over the patient to prevent her apparel and the bed clothes from becoming soiled. Ether was administered by Dr. J. A. DE WOLF, the Assistant House Surgeon. Dr. EMMET was assisted by Drs. E. A. PEASLEE, GEO. A. PETERS, and the House Surgeon. Drs. GEO. T. ELLIOT, Jr., MEREDITH

CLYMER, FOSTER SWIFT, J. G. PERRY, J. H. RIPLEY, and others were present.

An incision, about four inches in length, was at first made in the median line, and the cyst exposed; a sound was then passed in between the tumor and the abdominal parietes, to ascertain the situation and extent of the adhesions; these were found to be so extensive, that it became necessary to enlarge the incision to eleven inches in length; the tumor was found to be universally adherent to the abdominal walls on both sides, and also adherent to the omentum, and ascending colon. In the separation of the adhesions, care was taken to separate them from the tumor, and not from the abdominal walls, thus leaving the separated points long and ragged, which permitted the easy application of ligatures to the bleeding vessels, and wherever hæmorrhage occurred, the point from which the oozing took place was tied, the ligature cut off short and left like those on the pedicle, to be absorbed or become encysted; the tumor was then tapped with Spencer Wells' trocar, and the cyst gradually drawn out; it was found to be made up of three cysts, one large, and two small ones; the two small cysts, owing to the relief from pressure, had evidently been developed since the tapping, as is evinced by the change in the position of the solid tumor which was due to their agency. The pedicle was rather short, but firm, and about three inches broad; it was tied in sections with strong silk ligatures, and left in the abdomen. Including the ligatures on the pedicle, twenty-two ligatures were left in the peritoneal cavity.

The cyst grew from the left ovary; the right one was healthy; the uterus was encysted in a mass of mural fibroids; it was lifted up out of the pelvis by the two small cysts which were beneath it, and pressed down by the large one which was above it, so that the fundus was thrown forward and rested just above the symphysis pubis, while the os pointed backwards and upwards almost in a line with the promontory of the sacrum; the vagina

was thus drawn into a funnel-shaped condition, and very much elongated. Not much blood was lost in the operation, and the peritoneal cavity, having been thoroughly sponged out with sponges which had been boiled and perfectly cleaned, the external wound was closed with twenty-four silver sutures; the sutures were passed some distance from the incision, and through the peritoneum on both sides of the wound. The patient was put to bed ten minutes after 6 P. M.; the operation having occupied three hours and forty minutes, and, as before stated, twenty-two ligatures having been left in the peritoneal cavity. Fifty-six pints of dark, dirty-looking fluid had been drawn off, resembling soup; the last two or three pints of which were purulent. The cyst, after evacuation, weighed 3 1-2 pounds.

7 P. M., 1 hour after the operation.—The patient had recovered from the effects of the ether; was somewhat nauseated, and vomited occasionally; but the mind was clear, and she looked bright and cheerful, and was free from pain; the pulse was 100.

8 P. M., 2 hours after the operation.—Complained of pain in the back, which she described as similar to that from which she suffered before the operation; was still nauseated from the ether, but had not vomited since the last visit; there was some rattling in the throat; the temperature of body was 92; the pulse 114; the respiration 36. Gave some brandy and water, with a few drops of hydrocyanic acid, hoping the acid might relieve the nausea.

11 P. M., 5 hours after the operation.—The rattling in the throat had almost disappeared, but the pain of which she complained at last visit had increased in intensity; the pulse was 120; the respiration 24. Ordered ten drops of Magendie's solution in an ounce of water, injected into the rectum.

5 A. M., 11 hours after the operation.—The morphia had relieved the pain, and the patient had rested well since the last visit; she was still asleep.

7 1-2 A. M., 13 1-2 hours after the operation.—Last

night was comfortable ; she slept well ; the pulse was 120 ; the respiration 24 ; the skin moist ; the tongue good ; the countenance cheerful, and no pain.

2 P. M., 20 *hours after the operation*.—Was seen by Dr. EMMET ; complained of the same pain in the back from which she suffered last night. Ordered, by Dr. E., an injection of forty drops of McMunn's elixir of opium. Pulse 120 ; countenance, tongue, and skin, good.

5 P. M., 23 *hours after the operation*.—The opium had relieved the pain, and she had been dozing for half an hour ; the stomach, however, was still irritable, and she complained of constant nausea ; the pulse was 132 ; the respiration 36 ; the temperature 100 ; the skin was somewhat drier, and she complained of feeling very weak.

8 P. M., 26 *hours after the operation*.—The pulse was 140, feeble, irregular, and difficult to count ; she was still nauseated ; the ounce of beef tea and brandy which she had been taking every hour since recovering from the effects of the anæsthetic, was not retained, and an ounce each of champagne and cream was substituted for it ; an injection of an ounce of brandy and three ounces of beef tea was ordered every three hours.

11 P. M., 29 *hours after the operation*.—The patient was still nauseated, as she had been almost constantly since the operation ; carbonic acid water, lime water, bismuth, ipecac., nux vomica, hydrocyanic acid, coffee, naptha, and the oxalate of cerium, have all been tried for the relief of the sickness at the stomach without much benefit ; she took ice frequently, and the stomach seemed to tolerate the champagne and cream better than anything else ; the pulse and respiration were increasing in frequency, the former 142, the latter 40 ; the skin was rather dry, and the countenance more anxious than during the morning and afternoon. Ordered forty drops of McMunn's elixir, per enema, to relieve the restlessness and anxiety ; no pain.

4 A. M., 34 *hours after the operation*.—The patient was

quieter and the nausea less troublesome, but she had rested very little during the night.

6 A. M., 36 hours after the operation.—The sickness at the stomach had diminished, and she had slept a little since last visit; she took champagne and cream freely, and occasionally a little beef tea and brandy without vomiting, but still complained of nausea when they were given in larger quantities than an ounce at a time; the injections of beef tea and brandy had been given every three hours; the pulse was 135, small, and weak; the tongue was a little dry.

8 A. M., 38 hours after the operation.—The patient was much brighter and more comfortable; there was no nausea and no pain; the pulse was 142.

2 P. M., 44 hours after the operation.—Was again seen by Dr. EMMET; the pulse was 134, but very weak; the respiration was 36; she was again somewhat nauseated, and had a restless, anxious expression.

6 P. M., 48 hours after the operation.—Was in the same condition as when last seen.

8 P. M., 50 hours after the operation.—She was suffering much from nausea, and tossed from side to side in bed with an anxious, restless expression, and an air of extreme exhaustion; the skin was bathed in a profuse perspiration; as she had slept little since the previous night, an injection of McMunn's elixir was ordered; the pulse was 142; the respiration was 36.

12 P. M., 54 hours after the operation.—The opium had relieved the nausea and restlessness; she was now quiet, comfortable, and felt inclined to sleep; the pulse was 136; the respiration 36; the temperature 100; the exhaustion was extreme, and the pulse very feeble and compressible.

4 A. M., 58 hours after the operation.—The patient was quiet, but much exhausted, and was evidently losing ground; the pulse was feeble, indistinct, and irregular—about 140, but impossible to count with accuracy; respiration 22, and labored; the skin covered with perspiration,

and the tongue dry. Beef tea and brandy were ordered more frequently.

8 A. M., *60 hours after the operation.*—Was very much exhausted, and covered with profuse perspiration; the stomach, however, was tolerant, and beef tea and brandy was again increased. Fifteen grains of the carbonate of ammonia was added to the injection of beef tea and brandy, which she now got every two hours.

12 M., *64 hours after the operation.*—In about the same condition as when last reported; covered with perspiration; countenance cadaverous; dozes all the time, frequently with the eyes partially open; pulse 128; temperature 100; respiration 22, and very labored.

5 P. M., *69 hours after the operation.*—Dr. EMMET, who was sent for, could not come, and the patient was seen by Dr. PERRY; she had improved very much within the last two or three hours; the countenance was better, the pulse stronger, and the respiration, though more frequent, was not so labored; the heart and lungs were examined by Dr. PERRY and the House Surgeon, and found to be healthy; she complained of some pain in the abdomen, which seemed to be due to tympanitic distension, and which a few drops of the tincture of nux vomica and capsicum relieved immediately; the pulse was 134; the temperature 100; the respiration 30; the tongue a little dry and furrowed; the skin was warm, but covered with perspiration.

12 P. M., *76 hours after the operation.*—Was very restless, with an anxious expression; groaned; shifted from side to side in bed, and could not be kept quiet, but suffered no pain, and only complained of being tired; the pulse was so frequent, feeble, and irregular, that it could not be counted; the lips were becoming blue, the respiration slower and more labored (only 14), the extremities were cold, and the body covered with perspiration. The House Surgeon examined the heart and lungs: the respiratory murmur was healthy, but the heart vibrated rather than contracted, and the first sound was absent; the rapid,



irregular pulse, the blueness of the lips, the slow, labored respiration, and the peculiar contraction of the heart, and the absence of its first sound, demonstrated very conclusively the formation of "heart clots."

The condition of the patient had been so much better in the afternoon than it had been in the morning, that we flattered ourselves the crisis had passed, and entertained strong hopes of her recovery; but it was now quite clear she could not live many hours.

From that time she slowly but gradually lost ground, the pulse becoming more feeble and frequent, the venous congestions more marked, and the respiration less rapid and more labored. Large quantities of beef tea, brandy, and the carbonate of ammonia were given and retained, but they seemed to produce no effect.

The patient died at 9 1-2 A. M., on the 6th of March, three days, fifteen hours and a half after the operation.

I was astonished at the inconsiderable amount of pain this patient suffered, and have been equally surprised by the same observation in the few other cases I have witnessed. One would naturally suppose the suffering after so formidable an operation would be very great; but such, it appears, is not the case, as Mr. SPENCER WELLS, in his book on *Diseases of the Ovaries*, asserts that the pain after this operation is not usually severe.

POST MORTEM EXAMINATION AT 4 1-2 P. M., 8 hours after death.—On opening the abdominal cavity, a slight amount of peritonitis was found, but not greater than would have been expected from the ligatures left in that cavity; there had been no attempt on the part of nature to absorb or encyst the ligatures; the lungs, liver, and other internal organs were somewhat congested, but, otherwise, healthy; a large, white clot was found in the right ventricle of the heart, which extended into, and almost perfectly occluded, the pulmonary artery; another organized clot of large size was found in the left ventricle, and still another, as large around as the finger, and two and a half or three inches

long, extended from the left ventricle into the aorta; these clots were all firm, white, and presented a cartilaginous appearance; there was no doubt of their ante-mortem formation. The external wound was perfectly united on the peritoneal side. The uterus weighed eight pounds; the depth of its cavity was six inches, and the organ retained the same position as before described.

Drs. EMMET, CLYMER, FARNSWORTH, RIPLEY, the House Staff, and several others, were present at the post mortem examination.

In the description of the operation, I neglected to call attention to one of its most interesting features. It will be remembered that the uterus was completely encysted in the fibroids by which it was surrounded, so that it was impossible to remove the fibroids without also extracting the uterus; and the question arose whether the performance of "Storer's operation" would enhance or diminish the patient's chances of recovery. Although it was mortifying, after having subjected the patient to so severe and dangerous an operation, to leave unremoved a tumor weighing eight pounds, it was thought best to do so.

January, 1869.

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#### *OBSERVATIONS IN MORBID ANATOMY.*

By ROBERT T. EDES, M.D., Hingham, Mass.

1. *Induration of the Stomach.*—The preparation from which the accompanying sketch was taken, is a section perpendicular to the surface of an indurated stomach. The specimen corresponded, as will be seen, very well to the description given by FLINT\* of "Induration of the Stomach," though presenting the rarer form of thickening at the cardiac portion rather than the pyloric. HABERSHON† describes the diseased structure very well under the head of Fibroid Degeneration of the Pylorus.

\* Practice of Medicine, 2d ed., p. 371.

† Diseases of the Alimentary Canal, p. 99.

J., æt. 69, of intemperate habits for years, had been for several months vomiting meals without pain; grew gradually worse, until he could bear no more than a spoonful or two at a time of anything; if he took more it came up again in a few minutes without pain or nausea; never any vomiting of blood or "coffee grounds" material; no tumor in epigastrium; no pain; for the last few days of life, he took nothing but water, or a spoonful or two of wine. Sometimes he got desperate with thirst and drank half a glass of water, which, as he said, "felt good going down, and just as good coming up." "Regurgitation"

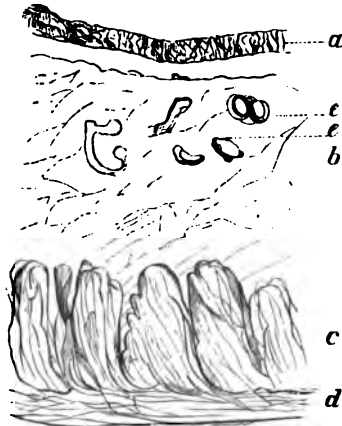


Fig. 2.

would describe his symptom more correctly than "vomiting."

*Autopsy.*—Intestines dark, almost black; mesentery very short, so that the intestines were drawn near together, and formed almost one mass; mesentery with whitish spots, especially along the colon (remains of fat?); colon adherent to stomach. (HABERSHON says, "externally we may find the omentum contracted and adhesions formed with adjoining structures.") Stomach very small; the larger extremity much thickened, especially at the cardiac orifice, which would not admit the little finger; the thickening terminated quite abruptly at the lower end of the œsophagus by a distinct ring, which was reinforced by the surrounding connective tissue; the termination an inch or two from the pyloric extremity was also distinctly marked.

The thickening of submucous connective tissue (*b*), and to a less degree that of the muscular coat (*c*) and the connective tissue in the interstices of the muscular bundles, are shown in the sketch. I have not seen the thickened and tortuous arteries (*e*) mentioned in any description of this disease.

2. *The Exudation of Pneumonia.*—A lady, æt. 62, died

of pneumonia, after eight days' sickness. Dulness of lower left back, and prolonged expiration on the same side, were noted on the second day.

At the autopsy the left lung was hepatized throughout, except a small space at the bottom, where the pleura had a coating of fibrinous exudation. Posterior portion of the right lung also hepatized. Bronchial tubes red and thickened, especially on the left side, where some were filled with pus.

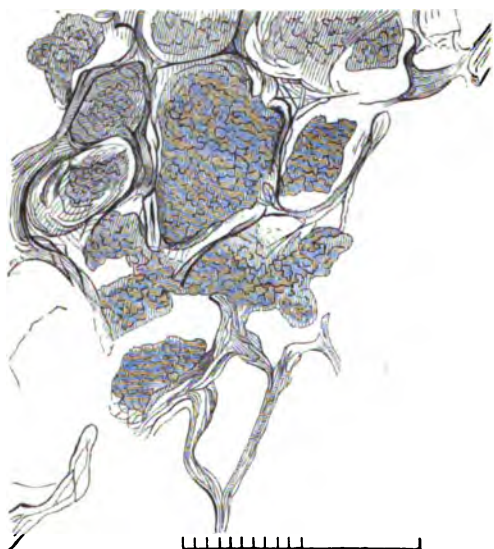


Fig. 3.

The scraping from the cut surface of the left lung showed pus, larger fatty (exudation) cells in less number, ciliated columnar epithelium (from the bronchi), and spindle-shaped cells.

Sections of the hepatized lung, hardened in chromic acid (Fig. 3), show the air vesicles full of exudation. The lung substance itself—that is, the

fibrous partitions or trabeculae and the capillaries—is not thickened. A higher power of the microscope shows (Fig. 4) the exudation to consist almost entirely of small, round, granular cells, with rarely a larger one, and running in every direction among the cells can be seen, where the section is thin enough, threads of fibrin (Fig. 6). The cells are in no respect distinguishable from pus cells.

In some places, where the contents of the vesicles have fallen out, cells of a different shape, that is, not so completely round, are to be observed adherent to the trabeculae,

and partitions between the vesicles (Fig. 5). Cells may also be seen which are angular, and show that they were tightly packed against each other.

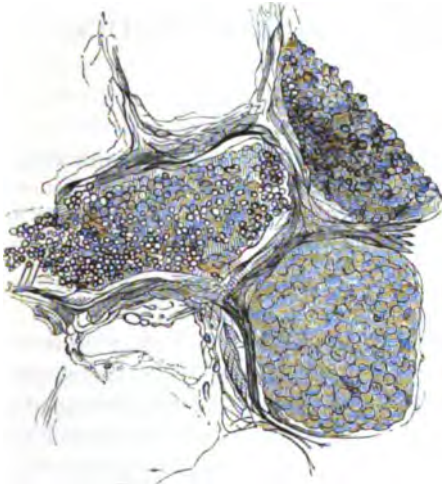


Fig. 4.



Fig. 5.



Fig. 6.

These preparations show nothing new, since the interior of the air vesicles is now generally recognized as the seat of the pneumonic exudation, but we rarely meet with drawings which show it so clearly as these sections.\*

The elongated and irregular cells adherent to the trabeculae I take to be the epithelium naturally present. As to the genesis of the pus these preparations can give no information, unless the presence of the cells adherent to the trabeculae is regarded as speaking for the older doctrine of cell multiplication, the epithelium constantly proliferating until the vesicle is filled.

Figs. 3 and 4 were outlined with a camera lucida. Figs. 5 and 6 were seen with Grunows' 1-8 and eyepiece No. 2.

\*The illustration in Bennett's Clinical Lectures on Medicine, though purporting to be from nature, looks very much like a diagram.

## Reviews and Bibliographical Notices.

*ON CHRONIC BRONCHITIS*, especially as connected with Gout, Emphysema, and Diseases of the Heart. Being Clinical Lectures Delivered at the Middlesex Hospital. By E. HEADLAM GREENHOW, M.D., F.R.C.P., etc., etc. Philadelphia: Lindsay & Blakiston. 1869. 8vo., pp. xix, 236. Price, \$2 25.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

The eight lectures delivered by Dr. GREENHOW develop three points in the clinical history and etiology of chronic bronchitis, which are of paramount importance in determining therapeutic measures; tending to prove that an idiopathic chronic bronchitis is very rare, and equally so as a sequel to acute bronchitis of a purely primary character. "Vicissitudes of weather, and exposure to cold or damp, are generally regarded as the only exciting causes of bronchitis;"—"nevertheless there can be no doubt that, in the majority of instances, such causes only excite the disease when a strong predisposition to it already exists, either from some constitutional derangement of health, or else from delicacy of the bronchial membrane consequent on previous attacks of bronchitis, or on long-standing local irritation arising from the inhalation of dust or of over-dried air." But, beside these primary forms, the author distinguishes the much more frequent secondary forms, in which "the bronchial affection arises out of some constitutional vice, or some other previously existing ailment;" and it is to the three more important of the latter causes the author devotes his attention in the instructive series of lectures before us; namely, gout, emphysema, and cardiac disease.

The first case which the author relates—Dr. GREENHOW has the faculty of conveying his facts in an interesting and fascinating manner—is one in which the patient had "contracted chronic bronchitis from exposure to causes of taking cold, without having any special predisposition to that disease." Such cases, we are

told, are exceptional; "acute bronchitis is, undoubtedly, often excited by a severe catarrh from some temporary cause;" "but where the disease becomes chronic, there is almost invariably found to exist also . . . a predisposing cause." The next few cases are illustrative of bronchitis caused by the mechanical irritation of dust, which, the author takes occasion to show, frequently leads to pulmonary consolidation also, the pulmonary lesion always beginning as chronic bronchitis. Finally, the breathing of over-dried air is considered as a cause of bronchitis. The discussion of this subject leads to the hygienic management of bronchitic patients, and lastly, to the eminently practical, but brief, remarks on treatment. New, to us at least, is the employment, in chronic cases attended by very copious expectoration in which balsamic medicines are recommended, of the tincture of larch, because it is less apt than copaiba, Canada balsam, etc., to disagree with the stomach, and is equally serviceable in regard to the bronchial affection. Dr. G. cautions against the indiscriminate use of blisters in bronchitis: "they must be regarded as unsafe remedies, unless the kidneys be perfectly healthy." The therapeutic method by inhalation seems not to form part of the author's usual treatment.

The comparative infrequency of gout on our continent robs the two following lectures, as concerning the American reader, of much of the value which the British student must attach to them. The author's statistics elicit the remarkable fact, "that in thirty-four, or more than one-third, of our ninety-six cases of bronchitis, a distinct gouty history attached either to the patients themselves or to some of their immediate relatives;" he, therefore, thinks himself "justified in the conclusion that there is, really, the intimate relation between a gouty constitution and chronic bronchitis, which I have frequently taught you; and that, in many cases, in which a hereditary tendency to gout has not been developed into the characteristic form of that disease, it manifests itself in the form of chronic bronchitis." This gouty bronchitis, moreover, is often associated with psoriasis and eczema, not alone in persons of evidently gouty habit, but not unfrequently, also, where there is no other evidence of a gouty tendency in the patient's personal history.

Albuminuria, also, and gravel, are complications of chronic bronchitis, the relation between which is likewise referred to the same "humoral dyscrasia; which in one case produces gout.

in another gravel, in a third psoriasis, or, as in the cases which we have been considering, bronchitis co-existing or alternating with one or more of these other ailments."

To us, the chief interest of the book is in the remaining four lectures. Lectures v and vi treat of emphysema of the lungs, and its relation to bronchitis both as cause and effect:

If the emphysema is very partial, it is usually secondary, both in origin and importance, to some other pulmonary lesion; if, on the other hand, it is general or extensive, it is sometimes, I am convinced, the primary disease; and is always, at the least, a very important complication of other diseases, giving rise in the course of time to very obvious symptoms, and to very serious secondary consequences.

Respecting its origin, Dr. G. accepts the theory of Sir WILLIAM JENNER, "that powerful expiration is by far the most common and efficient cause of vesicular emphysema." Dr. G. entertains no doubt that this theory is correct in the majority of cases, and "especially applicable to that large class of cases in which emphysema appears to be the direct result of bronchitis," but that it would be too narrow a view to refer emphysema exclusively to mere mechanical causes. On the contrary, he holds that its development is usually preceded by some abnormal condition of the walls of the air-cells which become emphysematous. "I regard," he says, "degeneration of the tissue of the lungs as being undoubtedly, in at least the large majority of cases, the primary step towards the development of general emphysema." This degeneration (of which the fatty change is one form, and a more frequent one than fibrous degeneration) is attributed to mal-nutrition.

Clinically, the author recognizes three forms of the affection: Constitutional or Substantive, Bronchitic, and Senile Emphysema. The first of these forms is described as follows:

Constitutional or substantive emphysema is usually slow of development; and, not unfrequently, so imperceptible in its advance that it is altogether overlooked until the accession of bronchitis, or of some other pulmonary complaint, forces it into notice. In such cases, the patient gradually passes from a condition of apparent health into a state of well-marked emphysema, without the pre-existence of any obvious pulmonary disease, or of any extraordinary mechanical cause, to account for its development. The dyspnœa attendant on emphysema creeps on by slow degrees, during months, or it may be years. At first, perhaps, it is only experienced in climbing a hill, or some similar unwonted exertion; and the patient becomes so inured to its presence that he accommodates his



habits of life to its encroachments, and regards it as his normal condition, until its symptoms are suddenly aggravated by the accession of bronchitis.

The second form—*Bronchitic Emphysema*—is made to include all those cases in which emphysema begins simultaneously with, or soon after, the accession of bronchitis, and those in which it becomes developed after severe and repeated attacks of chronic bronchitis. The author finally reminds the reader that the two causative factors, “degenerative change in the pulmonary tissues, and mechanical over-distension of the vesicles by air,” may and do combine, so to speak, in every varying shade of proportion.—*Senile Emphysema* is not discussed.

We beg to differ seriously with Dr. GREENHOW on a point of theory indicated by a few phrases we find in this part of his book, such as “the pressure of the enlarged lungs,”—the parietes of the thorax yielding “to the increasing volume of the lungs” (p. 155).—“the downward pressure of the over-distended lungs” (p. 164),—and similar ones.

One other important chapter remains for consideration. Lectures VII and VIII show the mutual relation of cause or of consequence existing between bronchitis and disease of the heart. But the author’s pleasant manner of teaching has already led us to carry our review to unintended length, and we must refer the reader to the pages of the work itself, which we commend unreservedly.

We will not omit to state that the book before us, bearing the names of Lindsay & Blakiston, as publishers, is not a reprint, but the original London issue.

G. B.

*LESSONS ON THE STUDY OF FEVER.* By ALFRED HUDSON, M.D., M.R.I.A., etc. Philadelphia: Henry C. Lea. 1869. 8vo., pp. 316. Price, \$2 50.

[For sale by Fryar, Cowan & Krath, Booksellers, 219 North Fifth Street.]

This volume, dedicated by its author, who is a physician to the Meath Hospital, Dublin, to his colleague, Dr. WM. STOKES, presents various marks of its national origin, and of the eminently practical school of physicians of which it is the offspring. The title is well chosen. Although the opinions of the author on several points, as to the nature and treatment of fever, are indi-

cated with sufficient clearness, the chief end of the book is to direct the mind of the student in such a way that he may acquire, by his own observation, the data on which the theories and treatment of fevers are founded. The species of fever which are specially analyzed, are the typhus, typhoid, and relapsing synocha; the first and last of which have been prevalent in Ireland in periods of famine.

Dr. HUDSON dissents from the view of VIRCHOW that fever, consisting essentially in elevation of temperature, and rising from an increased tissue change, has its immediate cause in alterations of the nervous system, thinking that there is no good evidence of such alterations before the period of the initiatory rigor, and that the direct action of the poison of fever (and of all morbid poisons) is catalytic, and that the order of its operations is as follows:

- " 1. Its primary toxic action on the blood, and, through this medium, upon each molecule of the body.
- " 2. A form of inhibitory paresis of the moderating nervous centres, and more especially of those nerves connected with the heart, lungs, and stomach.
- " 3. Increased disintegration of tissue, with increase of animal heat.
- " 4. Derangements of capillary circulation.
- " 5. Derangements of secretion.
- " 6. Accumulation of the products of disintegration in the blood.
- " 7. The phenomena of elimination and crisis."

To cause a fever, the poison must come in contact with a person who is predisposed, or, in other words, has present in his blood a material which the poison transforms into a substance identical with itself. And it is held not only that there is a separate poison for each species of fever, but that "the material in the blood on which it depends (which may be termed the essential predisponent) is probably different in each form of fever." Two morbid poisons may be harbored in one patient at the same time, each having seized upon its appropriate co-existing material.

The author has been for many years interested in the controversy that has pretty thoroughly determined the diversity of origin and species of typhus and typhoid fevers, the poison of typhus being generated by the crowding together of collections

of human beings, who can spread the disease by contagion, while the poison of typhoid or enteric fever is derived from the miasms emanating from decomposing fecal matters of sewers, cesspools, etc., and is only feebly contagious. In this connection he lays great stress upon the point that typhus, which he classes with the exanthemata, like them, confers a remarkable immunity from future attacks from the same disease, but not from typhoid. and, in a striking passage, he says that the large and daily increasing mass of observations on the etiology of fevers fully proves "the law, that the factors of fever, or those substances which act as poisons, when, whether generated in, or received into, the living body, they are *retained in the blood*, have a special affinity for the surfaces from which they are normally excreted." That, in accordance with this law, the poison generated by the accumulated and confined emanations from the lungs and skin of crowded collections of human beings (ochlesis), has an attraction for those surfaces, which is manifested in typhus and scarlatina; while that arising from the decomposing excreta of the intestines, has a similar attraction for that surface, and is eliminated by it.

The author considers his subject in detail, with more or less method, taking up the several physiological processes in the human body, and analyzing the changes produced in them by the different species of fever, and interpreting the language of symptoms.

He gives detailed accounts of cases of tympanitic resonance of the chest, in pneumonic complications, where there was no air in the pleuræ, and his analyses of the symptoms bearing upon the state of the right and left sides of the heart, are very interesting.

With regard to the treatment of fever, he holds to the opinion that it is possible to cut short the attack by blood-letting, emetics, and cold affusion. The last means, he says, has fallen into complete disuse, but, strange to say, notwithstanding his faith in it, he makes no attempt to introduce it again.

The emetic may be used alone, or be preceded by the bleeding, but neither should be attempted later than 36 hours after the seizure, as they are then both useless and unsafe. With regard to purgatives, however, he says, that "no treatment is calculated to do so little good, or so much harm, as the free exhibition of

active purgatives at the commencement of fever," and that this abuse of purgatives prevails both in and out of the profession.

He has found that opium can be better borne in typhoid, and wine in typhus, and he gives some interesting details relating to the use of the remedy so highly spoken of by Dr. GRAVES. in certain cases, a combination of tartar emetic and opium.

In these days, when we still have to deplore, in certain quarters, the effects of indiscreet and over-medication in typhoid fever, it is satisfactory to see the ulceration of the intestinal follicles in that disease characterized as an affection "little influenced for good by treatment," and also to read the first general rule in his summing up of treatment: "That inasmuch as fever is a disease having a definite course, duration and termination, undue interference with it is to be deprecated, and the duty of the physician will often consist of watching and waiting upon the operations of nature without interfering." But while the author adopts this for his chief principle, he investigates thoroughly the nature of the disease with its phenomena, both essential and accidental, its treatment commendable and erroneous, with an acuteness that can come only from a long and intelligent experience.

The physician in the Valley of the Mississippi, who has but rare opportunities of seeing cases of typhus and relapsing synocha, and is called upon to treat bilious, remittent, and intermittent fevers, with their depravations of the system that they produce, and as they are modified by the peculiarities of constitution of the native American, will not find the book so valuable as will the practitioner in Ireland. The style of the author is not unexceptionable, and his book is by no means easy reading, but he evidently expects the medical student to be a manly worker, and certainly directs his labor so that it is likely to be productive, providing seed worthy of being sowed in good ground.

C. E. B.

1. *A HANDBOOK OF UTERINE THERAPEUTICS, AND DISEASES OF WOMEN.* By EDWARD JOHN TILT, M.D., &c. Second American Edition, thoroughly revised and amended. New York: D. Appleton & Co. 1869. 8vo, pp. 345. Price, \$3.50.

[For sale by the St. Louis Book and News Co.]

2. *ON THE MICROSCOPE IN THE DIAGNOSIS AND TREATMENT OF STERILITY.* By J. MARION SIMS, M.D. Reprinted from the *New York Medical Journal* of January, 1869. New York: D. Appleton & Co. 1869. 8vo, pp. 25.

The work of Dr. TILT, of which the title is given above, is now presented to the profession in America, revised by its author from the third English edition.

Those who are familiar with the branch of medicine of which it treats, will not need to be reminded that Dr. TILT is a London physician of more than thirty years' practice, and that he has previously written on several kindred topics. It has been held by some distinguished physicians that it is apt to be an injury to write on medical subjects, since the writer has a tendency to hold too closely to the opinions that he has once published. "*Litera scripta manet.*" But there is a use for conservatism in medicine as well as in other quarters, and our author, at any rate, gives a valuable account of the recent advances from his own point of view.

This edition he begins with a special preface sending greeting to his American friends, and stating the particular object of the book. He inveighs against fashion in medicine, which certainly fluctuates more than is necessary to correspond to any change of type in disease, saying that we are threatened now with a rapid return to "that slough of expectant medicine, which, centuries ago, was rightly stigmatized as 'a meditation on death.'" Coincident with this loss of faith in therapeutics is an exaggerated surgical tendency, which he thinks especially displayed in two recent works, in one of which, "a skillful surgeon sought to convince the profession that the removal of the clitoris was the best way to cure diseases of the womb, hysteria, epilepsy, and insanity"; the other work is that of Dr. MARION SIMS, whom he calls, however, "an honor to his country and to our profession." The main points he intends to develop in his own book are

"Firstly. The paramount importance of hygiene for the relief and cure of diseases of women.

"Secondly. The constitutional nature of many diseases of women, and the impossibility of curing them without constitutional remedies.

"Thirdly. The manifest reaction of uterine diseases on the female system, and the impossibility of curing many uterine complaints without surgical measures.

"Fourthly. The great value of therapeutics to assuage and cure diseases of women, and the belief in the value of those remedial measures, that are as old as medicine itself—such as venesection, emetics, and caustics."

In the introductory chapter he discusses the primary relations of the physician and patient, giving acute and practical hints as to the manners and personal qualities most likely to impress her favorably and inspire confidence; the method of interrogating her so as to elicit the necessary information without giving offense to her ideas of propriety; the duty of being hopeful in all cases that will admit of it; beside inculcating on other points that tact which is so valuable in medicine, and not to the physician alone.

The physical examination is next given in detail. He finds the bimanual method not so easy as it has been represented to be, and thinks Dr. SIMS' simile of the womb being thus felt "as easily as a pear through the folds of a napkin" a very unfortunate one, while his speculum will certainly be reserved by the profession for the most severe forms of uterine disease, although invaluable for some serious operations, and the description of the attitude necessary for its use is quoted in italics that suggest a sarcastic intent. The uterine tenaculum is approved of: "simple ideas come late." He claims to have helped to introduce Glycerine into the British Pharmacopœia, and says there is no better way of using it than that recommended by Dr. SIMS. He cautions the profession against the use of the uterine sound to replace the womb, and cites cases of abortion and fatal peritonitis that have been occasioned by this instrument in experienced hands. Dilatation of the cervical canal "must not be attempted until inflammation of the cervix has been subdued, and until that of the body of the womb has become passive." "The only bad results that I have observed to be caused by the gradual dilatation of the cervix are, uneasiness, uterine pains, an increase of mucous discharge, a little loss of blood, and the advance of the menstrual period. Having seen no other evil results follow dilatation, I do

not side with those who represent this process as dangerous, and the slitting up of the womb free from danger."

Under the head of Uterine Dietetics and Home Treatment, rest and exercise, diet, injections, poultices, suppositories and bathing are all treated of with the originality characteristic of the author. We simply note, that the use of sewing machines and playing on the organ and harmonium is forbidden where there is a tendency to uterine disease.

Among Tonics the Turkish bath is described. He considers its application limited in uterine diseases. He has used it in chronic inflammation of the body of the womb, and in cases where there was a deficient action of the skin. He has ordered it too to remove fat from stout and unhealthy women. But he advises his patients not to use a higher temperature than 125° F., and he fears it in organic disease of the heart, in cases of confirmed consumption, or where there is a tendency to congestion of the brain or large vessels. He says, however: "For the last four years I have watched the influence of a high temperature on the sham-pooers, who remain in the bath about twelve hours a day, and they are strong, active men, seldom stout, but in good condition. One, who weighs 13 stone, loses about 10 lbs a day in the bath, which loss is daily compensated by food, water, and other fluids: the same man has lost as much as 13 lbs in the day, by stopping four hours in a very hot room, but immediately afterward he walked five miles with perfect ease. Lest it should be supposed that these are exceptional cases, I may mention having met with gentlemen who have taken the bath every day for six weeks, and that it rather increased than diminished their strength. I have mentioned these particulars to justify the assertion that every hospital should have a Turkish bath attached to it."

With regard to marriage as a tonic he says: "An enlarged field of observation convinces me that the profession has in no wise exaggerated the advantageous influence of marriage on women, and that its dangers are infinitesimal as compared with those of celibacy."

His opinions on Sedatives are preceded by a short account of Hysteria, a term that he thinks has been too widely applied: "if all anomalous cases of cerebral disturbance that do not well fit into any other nosological pigeon-hole, are to be pitched into the hysterical, it bodes ill for the progress of cerebral pathology."

"To account for hysteria, I admit that a peculiar predisposition of the cerebro-spinal system is reacted on by the ganglionic disturbance, usually determined by some morbid condition of the ovario-uterine organs." The indications for treatment are to strengthen the nervous system and blunt its sensitiveness: to cure all diseases of the sexual organs, and in certain cases to prescribe marriage.

Not so much is said on the subject of bleeding and emetics as might have been expected from the tenor of the preface. While recognizing the abuse of bleeding, he does "not feel disposed to give up a remedy which has stood the test of ages," and he thinks that it borders "on absurdity to be so much afraid of bleeding women suffering from acute inflammation, when we know that, for thirty years, they are bled by nature once a month, and that they often recover well from frightfully large losses of blood." Without entering fully into the merits of the question, we will only briefly say that, as far as the above points go, error is sometimes long-lived, and that we should scarcely be justified in doing for one end what nature habitually does for another, and that many fortunate escapes may occur from a real danger not to be incurred for an uncertainty.

We are sorry to pass over without extract the chapter on Caustics, which is full of interest.

On the subject of Uterine Misplacements he holds decided opinions. "The ridiculous importance attached to the womb's deviating slightly from its usual position, so irritated CRUVEILHIER, that he declared the womb to be always on the move, and without a determined position." After mentioning some apparatus used in England, he continues: "An undue developement of this mechanical tendency gave rise to a system of uterine orthopædics, in which the incontestable symptoms of inflammation of the womb were accounted for by its misplacements. This system has still numerous supporters advocating their peculiar pessaries, and Dr. GRAILY HEWITT has lately asserted that 'irritable uterus' was nothing else but uterine retroflexion. Patients were found sufficiently docile to lie on their back for a year, if the womb were anteverted, and on the belly if it were retroverted; and practitioners have entertained the singular notion that they could permanently restore the womb to its right position, if they replaced it by the uterine sound every day for two or three months.



The absurdity of this plan led Sir J. SIMPSON to devise his intra-uterine pessary, which he advocated in the same enthusiastic spirit with which he has taken up chloroform for midwifery, tallow for consumption, numismatics or revivals." "With us there seems no abatement in the attempts to relieve uterine displacements by mechanical measures: \* \* \* \* \* unfortunately, however, a host of remedies for any complaint implies their inefficiency, and of the large number of pessaries that have been invented, most are useless, and some are dangerous. In the previous editions of this work I have related instances of women who were speedily relieved from uterine pains, and enabled to walk, on the womb being well supported by an air-pessary; but these are very exceptional cases, and the general run of practice teaches me still to maintain, with LISFRANC. P. DUBOIS, DEPAUL, GOSSELIN, BENNET, MEADOWS, BERNUTZ, and GOUPII; that, with the exception of prolapsus uteri, uterine displacements seldom cause much suffering, and that the pain and other symptoms that accompany them, are to be explained by congestion, inflammation, or neuralgia of the womb, of its mucous lining, of its serous envelope, or of the ovaries. It is by ignoring antecedents so important as long-continued subacute inflammation of one or of several of the uterine tissues, cellulitis and peritonitis, or by undervaluing their agency, that the importance of flexions and versions of the womb has been exaggerated; whereas, the womb has been so constructed as to admit of being twisted and turned with perfect impunity, so long as it be not diseased, and flooding is often the first indication that the womb has been long subjected to extensive displacement by fibrous or ovarian tumors. \* \* \* \* \* Believing that the displacement theory is, in the main, fallacious, I protest against it, because it appeals so forcibly to popular prejudices; for the pain caused by a dislocated joint is so evident and severe, that a dislocated womb will be received as a sufficient reason to account for any amount of internal suffering by those who do not know better. Most of the practitioners who have adopted the mechanical treatment of uterine diseases, have, doubtless, only been guided by the honest desire of curing their patients; but no theory more easily admits of being improperly taken advantage of by the unscrupulous."

Notwithstanding, great benefit is frequently obtained from the use of bandages and pessaries, and he thinks that many varieties

of the latter will be superseded by the American ring or lever invention of Drs. MEIGS and HODGE.

With regard to the pathology of sterility, he agrees on many points with Dr. SIMS.

Besides a very useful formulary of the more elegant and cleanly preparations that he is in the habit of ordering, Dr. TILT has introduced at the end of his book a new feature, enumerating under the title *Investiganda* a series of eight questions on unsettled points in uterine diseases, holding that it is desirable to define the boundaries of ignorance, as well as to give precision to knowledge.

We hope these few discursive remarks and extracts will convey to the reader some idea of the value of this interesting book, full of epigram as well as practical information, and the work of a man of extended experience, who has a great deal to say, and is able to say it in a lucid and animated style.

The paper of Dr. SIMS, now published in pamphlet form, was first read at the Oxford meeting of the British Medical Association, August, 1868. His method of procedure in making his investigations, is similar to that which his readers will remember in the cases of sterility given in his book on *Uterine Surgery*; taking, however, one step further in advance which is so rational and obvious, that it seems strange that it has not been taken before, in a matter where so much happiness and sometimes property have been at stake, to say nothing of the hygienic results attained by child-bearing.

In treating a case of sterility, it is desirable to know whether living spermatozoa reach the interior of the uterus. Dr. SIMS, shortly after the conjugal act, withdraws a small quantity of mucus from the cervix, and by the microscope finds the objects of his search either living, dead, or absent; each condition giving him the most valuable indication for treatment, or for further investigations, or for suspending them as useless.

C. E. B.

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**LESSONS IN ELEMENTARY CHEMISTRY: INORGANIC AND ORGANIC.** By HENRY E. ROSCOE, B.A., F.R.S., Prof. of Chemistry in Owens College, Manchester. New York: Wm. Wood & Co. 1868. 18mo., pp. viii, 383. Price, \$1 50.

[For sale by Peter Smith, No. 821 North Fourth Street, St. Louis.]

We should be gratified to see this little treatise find its way

into the hands of all medical students who begin their course on chemistry. Many of our colleagues, who preserve a faithful memory of their student days, may smile incredulously at our assertion, that an elementary textbook on chemistry has been written which is *not* intolerably dry. Yet this is what we mean to say of the book whose title we have given above.

Chemistry is here taught in "lessons," 26 of which are devoted to the inorganic part, the remaining 15 to the "chemistry of the carbon compounds." The theory of chemical combination, symbols, combining weights, etc., are brought in *gradatim*, interwoven in the easy flowing narrative of facts, each point being clearly "explained as our stock of chemical facts gradually becomes larger." This appears to us an admirable plan of teaching chemistry. At the same time, there is no "painfully popular" tendency in the book; it is strictly scientific, accurate, and reliable. Moreover, the book is modern, and up to its date. It makes use of the new nomenclature, and inculcates the type theory, not as a new thing to be remembered in addition to the old formulas, but as the guiding thread of chemical science. It strikes us as the successful achievement of a very difficult task that the new theory has been so uniformly and consistently applied, that we but rarely find, in a casual slip of the pen, a trace of the old theories.\*

Another, not unimportant, merit of the book is the adoption of the metric system of weights and measures, and the centigrade scale of the thermometer.

The organic part is quite as full and explicit as can be expected in a manual of its size. The brief remarks on animal chemistry will not, of course, satisfy the medical student who devotes more than the ordinary attention to the chemical side of his studies. We base our earnest recommendation of ROSCOE'S "Lessons" as a textbook for the medical freshman, on the belief that it is more likely to engender a love for the science, and overcome the difficulties usually complained of, than any other book within his reach.

G. B.

\*To give one example: On page 16, it is said that certain metals, such as iron or zinc, "are able to evolve hydrogen from water at the ordinary temperature of the air if a dilute acid be present." Whereas, on page 185, equation (1), true to the new theory, he makes the iron evolve hydrogen from the sulphuric acid. Another: Plaster of Paris, it is said (p. 170), "when moistened, takes up two atoms of water," molecules being meant, according to the author's own definitions; and though speaking correctly of molecules of water of crystallization on page 113, the author, on page 140 again refers to a "definite number of atoms of water" in the same connection.

**CLINICAL LECTURES ON DISEASES OF THE URINARY ORGANS**, delivered at University College Hospital. By Sir HENRY THOMPSON, Surgeon Extraordinary to His Majesty the King of the Belgians, Professor of Clinical Surgery, and Surgeon to University College Hospital. With illustrations. Philadelphia: Henry C. Lea. 1868. 8vo., pp. 204. Price, \$2 25.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

Under the above title, in twelve short lectures, Sir HENRY THOMPSON "desires to offer to students at large, some of the fruit of a long and careful study in that field of practical medicine, in its widest sense, to which they relate," his object being to afford "that information which will be most useful at the bedside." Neither the anatomy nor the physiology of the urinary organs is considered. Very little is said concerning the pathology of the diseases discussed. With the exception of some rather remarkable statements, the lecture on diagnosis is excellent, and must prove very attractive and useful, especially to those just commencing practice. Two lectures are devoted to stricture of the urethra, which, Sir HENRY says, is not so common as many suppose. He has decided objections to the terms "inflammatory stricture" and "spasmodic stricture," and believes it would save some confusion to employ stricture only to designate organic stricture. He tells us what this latter is, and asserts that it "is a permanent condition;" "it can not be dissipated by any known means;" "it can not be removed by absorption." A careful reading of what he has to say on this very important subject will convince one that his teachings are at variance with the best authorities, and by no means quite consistent. In treating stricture, he advises "dilatation, always, without exception, whenever it will succeed," and he tells us how we may most safely and speedily accomplish it. He greatly prefers flexible instruments "whenever they are available," deeming them the best for the treatment of stricture and all maladies of the canal. His directions concerning the use of catheters, sounds, and bougies are minute and excellent, and if bunglers are as common in this country as Sir HENRY would have us believe they are in England, they ought to be very generally and carefully read. Of the other lectures, that on lithotrity is particularly interesting, and if this operation can be performed with such facility and safety as is represented, lithotomy will very soon be practiced by far less frequently than it now is. In a word, this volume contains, in a

small compass, so many and such valuable practical suggestions, that it needs only to be read to become a favorite with the profession.

J. M. L.

*THE USE OF THE LARYNGOSCOPE IN DISEASES OF THE THROAT:* with an Essay on Hoarseness, Loss of Voice, and Stridulous Breathing, in relation to Nervo-muscular Affections of the Larynx. By MORELL MACKENZIE, M.D., London, M.R.C.P., Physician to the Hospital for Diseases of the Throat, etc. 2d edition, with additions, and a chapter on the Examination of the Nasal Passages, by J. SOLIS COHEN, M.D., etc. With 2 lith. plates and 51 illustrations on wood. Philadelphia: Lindsay & Blakiston. 1869. 8vo., pp. 289. Price, \$3 00.

[For sale by Frary, Cowan & Krath, and the St. Louis Book and News Co.]

This new issue of MACKENZIE'S work consists of (1) an unaltered reprint of the first edition—to p. 146 incl.; (2) the principal additions which the author made in his second edition recently published in London—pp. 147–158; (3) additions by the American editor,—pp. 159–182; (4) Dr. MACKENZIE'S essay on hoarseness, loss of voice, and stridulous breathing, from which, for some undesigned reason, the appendix on atrophy of the vocal cords has been omitted,—pp. 183–260; (5) additions on aphonia, by Dr. COHEN,—pp. 261–273; and (6) a chapter on examination of the nasal passages, by the same,—pp. 274–286.

The additions of the author, torn from their connection with the text, lose much of their practical value, especially as there is, of course, no reference to them in the body of the work; thus far, therefore, the book before us is not an exact equivalent of the second London edition. (The additions relate chiefly to illuminating apparatus, new instruments for the removal of growths, as laryngeal forceps and "laryngeal rigid wire loops," and a number of interesting cases.) But, on the other hand, we are presented with much additional matter of value. The editor describes a number of the instruments used by German laryngoscopists, about which Dr. MACKENZIE has said very little, but which are more easily procurable in this country than the author's instruments, and appends useful instructions on the manipulation of instruments within the laryngeal cavity, as well as in extra-laryngeal operations.

The gifted author's essay on hoarseness, etc., is an attempt at a systematic description of the nervous affection of the larynx.

The diseases of the motor system embrace the paralysis and spasms of the muscles acting on the vocal cords. Of the paralysees, 4 forms are distinguished, viz. : paralysis of the adductors, the abductors, the tensors, and the laxors, either of which may be bilateral or unilateral. Two forms of spasm are distinguished, viz. : of the adductors (*laryngismus stridulus*), and of the tensors. The sensory affections, hyperæsthesia and anæsthesia, are but briefly alluded to.—In the next chapter Dr. COHEN, gives us the notes of some of his cases of aphonia, and the volume closes with a short article on rhinoscopy.

G. B.

***PATHOLOGICAL ANATOMY OF THE FEMALE SEXUAL ORGANS.*** By JULIUS M. KLOB, M.D., Professor at the University of Vienna. Translated from the German by JOSEPH KAMMERER, M.D., etc., and BENJ. F. DAWSON, M.D., etc. Vol. 1, Affections of the Uterus. New York: Wm. Wood & Co. 1868. 8vo., pp. xviii, 299. Price, \$3 50

[For sale by Peter Smith, Bookseller, No. 821 North Fourth Street, St. Louis.]

As a matter of importance, we will state at the outset, what the publishers omitted to set forth upon the title page, that the work before us is the (very able) translation of the *first volume* only of KLOB's Pathological Anatomy of the Female Sexual Organs, embracing that of the uterus only.

The translators' preface concludes with the very just monition to the reader, "that the present volume can not be classed with light literature, it being a work more for study than for casual reading." The bare attempt at a superficial perusal of its pages has, with us, proved futile. The author's language is thoroughly sober, severe, not embellished by rhetoric or dramatic effort, not interrupted by digressions of any kind. He writes no preface, but a short "Introduction," in which he gives definitions of fundamental terms and ideas, to allow the reader to have a fair and definite understanding as to his views on the range of pathological anatomy, and his interpretation of the terms anomalies of formation, anomalies of nutrition, hypertrophy, atrophy, inflammation.

Emanating from Vienna, the initial propositions of this introduction are highly interesting, as indicating the pathological school to which Prof. KLOB belongs. We copy them :

The actions of morbid, as well as healthy life, are manifested in three ways :

1. As plastic creative action—*Formation*.
2. As an action which insures the normal maintenance of the parts—*Nutrition*.
3. As that action which must be supposed to exist, even in the minutest parts of tissues, and also in elementary organizations, and by means of which they are enabled to fulfill their physiological ends in the system, and are rendered serviceable—*Function*.

And it must be added that, not only is the phraseology of the Berlin school adopted as displayed above, but every page of the book gives evidence that the author follows its precepts in all essential points.

We need hardly say that Prof. KLOB has written the most complete systematic treatise on the morbid anatomy of the uterus. It treats of the anomalies of formation, both fœtal and during extra-uterine life (flexions, versions, prolapse, etc., stricture and atresia, tumors), the anomalies of nutrition, and the puerperal affections of the uterus. *How* it deals with these subjects may be inferred from what we have said before of the author's standpoint. It is a most useful work to the student of uterine disease, and indispensable to the professor of the rising specialty of uterine surgery.

G. B.

*PRACTICAL OBSERVATIONS ON THE CAUSE, PATHOLOGY, DIAGNOSIS, AND TREATMENT OF ANAL FISTURE.* By WILLIAM BODENHAMER, A.M., M.D., etc., etc. Illustrated by numerous cases and drawings. New York: Wm. Wood & Co. 1868. 8vo., pp. xiv, 199. Price, \$2 25.

[For sale by Peter Smith, No. 821 North Fourth Street, St. Louis.]

The author informs us, with becoming modesty, that he has "no novel method of treatment to recommend, which by some species of *coup de main* practice, would hold out to both the surgeon and patient an instantaneous and miraculous cure, by which to excite the enthusiasm of the former and the hopes of the latter. He has only recommended a steady and a skillful perseverance in carrying out the practice of well-known, long-tried, and safe measures to a successful issue." "It is the great aim of the author to make that which is *true*, rather than that which is *new*, more generally known through all the ranks of the profession."

Dr. BODENHAMER's experience has been large, and the little book before us contains much valuable information on a most important subject.

E. H. G.

*ARCHIV FUER DERMATOLOGIE UND SYPHILIS.* Herausg. u. redig. von Dr. HEINRICH AUSPITZ, Docent an der Univ. Wien, und Dr. FILIPP JOSEF PICK, Docent an der Univ. Prag, unter Mitwirkung von Dr. M'CALL ANDERSON, London, Prof. BAZIN, Paris, Dr. BERGH, Kopenhagen, etc., etc. I. Jahrg. 1. Heft. Prag, 1869. J. G. Calve'sche k. k. Univ.-Buchhandlung.

*Archives of Dermatology and Syphilis.* Publ. and edited by Dr. H. AUSPITZ, Vienna, and Dr. PHIL. JOS. PICK, Prague. Vol. I, No. 1. 8vo., pp. 162, with 2 lith. plates.

[For sale by B. Westermann & Co., 440 Broadway, New York; and by F. Roeslein, 22 South Fourth Street, St. Louis.]

We take pleasure in advising our readers of the advent of a new quarterly, devoted exclusively to the consideration of diseases of the skin, and the "inseparably allied" subject of syphilis.

The array of names announced as collaborators (among which are M'CALL ANDERSON and ERASMUS WILSON of London, BAZIN of Paris, BIDENKAP, BOECK, and OEWE of Norway, many of the chief dermatologists and syphilidologists of Germany, including HEBRA, LEWIN, v. SIGMUND, SIMON, ZEISSL, as well as pathologists—KLOB, FRIEDREICH, RINDFLEISCH, etc.), and the names of the editors themselves, are predictive of success, and a continuance of the high standard of excellence which the first fasciculus has assumed. The new journal is at present without a competitor in Germany.

The number opens with a species of introduction by Prof. v. SIGMUND, on clinical institutions for specialties, with reference mainly to skin and venereal diseases. The first article is by HEBRA, on the Use of Caoutchouc in the Treatment of Skin Diseases. It is followed by communications on Parasitic Sycosis, by KOEBNER and MICHELSON; Nature and Treatment of Lupus Erythematosus, by KOHN; The Vegetable Parasites of the Human Body, by HALLIER; The so-called Subcutaneous Condyloma, by ZEISSL; and Eczema Marginatum, by PICK. We shall make our readers acquainted with some of these writings in our "Extracts from Current Medical Literature."

The next department is devoted to reports in the progress of Dermatology and Syphilis, which is followed by (3) "minor contributions," (4) critical reviews and notices, and (5) bibliography. The last named department is a feature which renders the ARCHIV invaluable to the student of the specialties of syphilis and skin disease, as it gives an index of all cotemporaneous



writings on these subjects, not confined to individual publications, but giving by title all articles on these subjects contained in the periodical literature of the day.

To students of these specialties, at all conversant with the German language, the new journal will soon become a necessity. It is published quarterly, in numbers of 128 to 160 pages, illustrated, of fair typographical execution, at 4 Thaler per annum = \$4 40 in gold.

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**COMPENDIUM OF PERCUSSION AND AUSCULTATION,**  
and of the Physical Diagnosis of Diseases affecting the Lungs and Heart. By AUSTIN FLINT, M.D. Fourth edition. New York: Wm. Wood & Co. 1869. 16mo. square, pp. 36. Price, 50 cents.

[For sale by Peter Smith, No. 821 North Fourth street, St. Louis.]

Dr. FLINT states in his preface that this little work has been found convenient "by his private pupils" and "by others." It seems to be well calculated to aid the student in remembering and classifying those facts that he has already begun to observe in the diseases of the chest.

It serves a purpose similar to that of certain physiological and anatomical charts, giving brief general views on which, as a basis, subsequent more detailed information can be built up.

C. E. B.

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**THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION.** Vol. XIX. Philadelphia. 1868. 8vo., pp. 497.

Last year's volume of the American Medical Association, less bulky than many of its predecessors, contains a number of valuable papers, a few of which we will briefly notice. The Section on Meteorology, Medical Topography and Epidemic Diseases is well represented. The report on the Topography, Climatology, and Epidemic Diseases of West Virginia, by Dr. HILDRETH, of Wheeling, is a very careful and elaborate paper, giving evidence of great labor, and embodying much statistical material of value. It is followed by a brief report, by Dr. ANTISELL, on the Climate and Epidemic Diseases of the District of Columbia. Next we have Dr. HEARD's report on the Epidemic Diseases of Texas, which is mostly occupied with the subject of yellow fever. Dr. CONDIE gives a condensed account of the diseases prevailing in Pennsylvania.

Dr. PETERS' paper on the Conveyance of Cholera from Hindostan through Asia to Europe and America, is a short description of the route which the epidemics of Asiatic cholera are wont to follow. It is the result, undoubtedly, of immense labor; but its worth would be enhanced ten-fold, if reference had been made to the proofs and authorities for his statements, even at the great cost of brevity; the source of each fact collected having been duly given in full, the author's able resumé would be of value to the medical historian. The paper is accompanied by two explanatory maps.—Dr. THOMS, of New York, proposes a series of plans for the collection and statistical arrangement of facts in regard to climatological and sanitary conditions of the various States; it would have been useful,—and we fear Dr. THOMS will find it necessary, in order to practically accomplish his object,—to give a more extended explanation of his wishes in regard to these plans.

There are two interesting articles on orthopædic surgery. That of Dr. QUIMBY, of New Jersey, publishes "a new treatment of congenital talipes;" Prof. SAYRE's paper is a "report on the treatment of club-foot without tenotomy." Both authors agree that (in the words of the last named) "the earlier you begin the treatment, the more surely and more rapidly will you be successful. . . . Take it in hand at birth, if you have the opportunity."

Dr. QUIMBY's method consists in applying (after a hardening process, by washing the feet and legs with a lotion of alum in diluted alcohol, continued for two weeks) a retentive apparatus of adhesive plaster. Three successful cases are reported, and the author deserves credit for urging its advantages, though he is not the first to propose it. Dr. QUIMBY's proposal is also mentioned in Prof. SAYRE's more comprehensive report. In addition to this, the latter describes the ingenious apparatus of Mr. BARWELL, of London, which adds to the principle of retention that of constant traction by elastic tubing so adapted as to supplement the function of the inactive muscles. The only objection Dr. SAYRE expresses to this plan is, that the adhesive plaster employed in securing attachment to the india-rubber muscles will sometimes slide, will soon become worn out, and often irritate and excoriate the skin. To overcome this defect, he constructed a club-foot shoe, in which the rubber tubing of BARWELL, instead of the springs in former use, supplied the motive

power, and with a ball-and-socket (instead of hinge) joint in the sole opposite the mediotarsal articulation.

Dr. GORDON BUCK, of New York, communicates "a new method of reconstructing the lower lip after its removal for disease." The two cases of epithelima reported are illustrated by 6 lithographic plates.

Dr. ELSBERG, of New York, reports favorably on the treatment of syphilis by the hypodermic injection of corrosive sublimate, as proposed by LEWIN, who claims for it the following advantages, viz.: the rapidity with which syphilitic symptoms disappear, the certainty of success, and the relative infrequency and mildness of recurrences. Dr. ELSBERG treated five cases, all successfully; injected not more than one-eighth of a grain, once a day, using a solution of 5 grains to 6 drachms of water. No unpleasant local effects but redness and tumefaction, no pytalism; only in one case gastric and intestinal disturbance. Treatment not longer than four weeks.

Prof. PAUL F. EVE, who now fills the Chair of Surgery in the Missouri Medical College, presents "a safe and effectual operation for the radical cure of varicocele." The new feature consists essentially in removing a portion of the scrotum (about 4 sq. in.) enclosed in an enlarged Ricord's fenestrated forceps, and throwing an *animal* ligature around the enlarged veins, tied just sufficiently tight to arrest the circulation. The wound is united by pins and figure of 8 sutures. It is claimed that this operation meets the two principal indications, viz., the removal of redundant scrotum, and the destruction of the enlarged veins; the parts being fully exposed, the artery and vas deferens are certainly avoided; it must produce a radical cure, and is safe, simple, and certain, there being little or no danger from phlebitis.

No prizes were awarded this year.

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**PRONOUNCING MEDICAL LEXICON**, containing the Correct Pronunciation and Definition of Terms used in Medicine, etc. etc. By C. H. CLEAVELAND, M.D. Eleventh edition. Philad.: Lindsay & Blakiston. 1869. 32mo., pp. 302. Price, \$1 25.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

In the strict sense of a vocabulary of pronunciation, and with the understanding that it is offered to those "who have not been favored with

a university education, or a critical knowledge of the languages" (which is stating the point rather delicately), we can recommend this small volume. But, in doing so, it behooves us to advert to the many grave errors it contains in pronunciation, as well as in grammar. We will note but a few, as examples. In pronunciation, it is a most inexcusable error to make *Equus* a word of three, *Obliquus* one of four syllables, thus: "e-ku-us," "ob-lik-yu-us"! *Lavement* is pronounced half English, half French: "lāve-ment." The prefix *Ex-*, in all words but "exhilarant," where it is correctly noted "egs," is directed to be pronounced hard—"eks," as *examination*, *exanthem*, *exhalation*, *exostosis*, *exotic*, *exuviae*. The pronunciation is indicated by the phonetic alphabet. A serious error in grammar, "*asthma spasmodica*," is made the more glaring by the correct "*asthma thymicum*," which follows immediately after it. Aside from some instances of erroneous interpunctuation, obviously due to imperfect proof-reading, we note a number of vicious abbreviations in the "Addenda." On page 272, taken at random, we read *Mod. præ.* for *modo præscripto* (there are, besides, two typographical errors in this line), *Nartheci.* for *narthecium*, *Novis.* for *novissimo* (*sic*), *Novu.* for *novus*; and on the next page, *Oli.* for *olim*, *Omni.* for *omnis*, *Opu.* for *opus*, *Pannu.* for *pannus*, etc. While, generally, the original terms for the abbreviations of substantives are given in the nominative case, we find "*Nom.*, *Nominis*; a name." *Ne* is translated *least*, instead of *lest*.

It is to be hoped that a future edition will be a "revised" and *corrected* one.

## Extracts from Current Medical Literature.

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### SURGERY.

#### 1. *Rhinoscöpy and Nasal Specula.* By J. L. W. THUDICHUM, M.D.

[*London Lancet*, November, 1868.]

Hitherto the inspection of the nasal cavities from the side of the pharynx, choanoscopy, has been practiced much more systematically than that through the nostrils. This has arisen through the impetus given to laryngoscopy, of which rhinoscopy was considered to be a mere appendix. But the neglect of what, in contradistinction from posterior rhinoscopy or choanoscopy, I will term anterior rhinoscopy, is mainly due to the remarkable circumstance, that there were no proper specula by means of which this operation could have been accomplished. The only speculum I could find in the shops bore the name of Liston, and was not suitable for my purpose. I therefore constructed a series of specula to suit many cases and requirements, and ultimately retained the following forms as highly practical:

Two valves are held together by a spring, and when compressed form a canal of oval bore, about 3-4 in. in length. The valve which expands the ala is from 1-4 in. to 3-5 in. longer than the valve which is placed against the septum. This latter inner valve should never be long enough to reach the sensitive part of the mucous membrane of the septum. It follows from this that each nostril requires its own speculum. There must therefore be for each case a right and left speculum. As the nostrils of different persons vary greatly in size, different sizes of pairs of specula must be at hand in practice. The speculum is inserted into the nostril while closely compressed; the moment the spring is liberated the nostril is fully expanded and if the operator now draws the spring, which serves also as a handle, upwards, the cavity of the nose can be fully inspected. The speculum therefore is designed exclusively to expand the atrium or membrano-cartilaginous part of the nostril; if it were allowed to enter beyond this, and to reach the isthmus formed by the unyielding cartilaginous septum and the nasal margin of the ascending branch of the upper maxillary bone, it would cause pain, and narrow by its own thickness this small passage. The new specula, several sets of which have been made for me by Messrs. Weiss, cause no pain, widen the atria to the utmost extent and admit of the introduction through them, into any part of the nose, of instruments necessary for slight, delicate. or severe operations.

2. *Chloroform in the Surgery of Childhood.* Remarks by  
M. GIRALDÈS, Paris.

[*Edinburgh Med. Journ.*, January, 1869; from *Gazette des Hôpitaux*,  
No. 50, 1868.]

In presenting to the Medical Society of Paris the second part of his work on the Surgical Diseases of Children, M. GIRALDÈS stated: "I intend specially to draw the attention of my colleagues to a very important chapter in my book, that is, the one on the subject of anæsthesia in operations on childhood. I also wish formally to enter my protest against the opinion of M. BOUVIER on this subject. His conclusions are dangerous, as he objects to giving chloroform to children; but, as he himself does not perform operations, he is not competent to give an opinion on the subject. Anæsthetics are very rarely fatal in childhood; and out of the four cases of death which have been published in the medical journals, in two it is very doubtful whether the inhalation of chloroform had anything to do with the fatal issue. Chloroform, on the contrary, has changed the aspect of the surgery of childhood; and even if chloroform were to be banished from all other surgical practice, it should still be kept for that of children. In diseases of the eye, in four-fifths of the cases of injury of the elbow, if one wishes to make out the presence or absence of fracture, in attempting a certain diagnosis in cases of phlegmonous periostitis, it is necessary to give the child an anæsthetic to prevent his struggles."

3. *A Substitute for Acupressure.* By JAS. ANDREW MILNE.  
M.D., Aleppo, Syria.

[*Medical Record*, February 1, 1869.]

There are some cases in surgery where none of the modes of acupressure now employed seem to be applicable, and as deligation is not desirable, I have had constructed delicate forceps to use as a substitute. The body of the forceps is little more than an inch in length, the two halves cross to furnish a grasping power to the beak—which is of delicate size, standing nearly at a right angle with the body—and three-fourths of an inch in length.

Its mode of action is simple and effective. The beak passes into the wound and clasps the vessel, bringing its two surfaces in contact, and then retaining them until adhesive inflammation takes place, and a firm clot forms. The body rests upon the surface, and is retained in place by a strip of adhesive plaster.

This mode may be considered applicable in all cases where acupressure is employed, and possesses the advantage of greater ease of application and removal. But its superior merits will be found in occluding vessels in their continuity. In applying a ligature, or acupressure, to an artery in its continuity, an incision has to be made of sufficient size to admit of the necessary manipulations, and lay the vessel bare to some extent, passing the ligature under the vessel; or in applying the mode of acupressure

employed in these cases, it is disturbed from its bed, and by the two procedures separated to a considerable extent from the surrounding tissues, and its vascular connection cut off for some distance from the point of strangling. Softening and degeneration are the frequent results; and secondary hæmorrhage, and many evil constitutional effects are produced.

By the use of the forceps only a small incision is required, and no larger surface of the vessel need be denuded than to admit of the passage of the beak of the instrument. The vessel is not disturbed from its connection with neighboring tissue or vascular relation.

By thus creating but little injury to the vessel and its surroundings, we materially diminish the danger attendant upon these operations, and simplify the mode of procedure to so great an extent that strangling of the carotid or femoral is an easy matter, and the occluding of the innominate, subclavian, vertebral, and iliac, much lessened in danger and difficulty.

The time necessary for the adhesion of the two surfaces of the vessel, and the formation of a firm clot, is from thirty to fifty hours, when the instrument should be removed. The wound, which was closed at first, is now freed from all foreign bodies, and left to accomplish a speedy cure.

4. *Rodent Cancer.* By CHARLES H. MOORE, F.R.C.S.  
(London, 1867. 8vo.)

[From a bibliogr. not. in *Brit. & For. Med.-Chir. Review*, Oct., 1868.]

Mr. MOORE regards rodent cancer as a local textural ailment, which progressively advances upon and involves the adjoining healthy structures, producing induration; ulceration following thereon from the centre of the diseased mass. "Did the disease only spread in the skin by growth, it would form a broad tough plate, resembling keloid; but it is a keloid with all the central part of the flat part ulcerated out. If it spread without a preceding solid growth, it would be rightly called an ulcer." The disease penetrates from the integument and involves all the subjacent structures, and after piercing the cranial bones may grow into the very substance of the brain, but is, at the same time, almost invariably concentrated into one mass by its continuity of growth. Unlike the solid substance of scirrhus, that of rodent cancer has no contractility, hence the absence of pitting and cupping, and the preservation of the contour and position of the as yet undestroyed integument. In this absence of contractility epithelial cancer agrees with it, and a similarity prevails between the microscopical constituents of the two cancerous lesions.

Rodent cancer is a disease of the decline of life, and as a rule makes its appearance in previously healthy persons. "It is not usual to find any disease of the subordinate glands in connection" with it. The diseases from which it requires to be distinguished are lupus, syphilis, and epithelial cancer. To the last named it bears the closest resemblance, particularly in the early stage of epithelial cancer of the face. The particulars of diagnosis are well stated in a few pages, and deserve careful

study, as does also the discussion concerning the nature of rodent cancer and the characteristics of cancerous disease. The conclusion drawn is that rodent cancer is one of the lowest forms of cancerous disease, possessing a lower vital energy than others. It possesses every local quality of cancer, being uninterruptedly continuous in its growth, but is, at the same time, so meagre a growth, "that it has no superfluous material for circulation in the blood to distant parts, and very little for the lymphatics and textures nearest to it."

In the matter of treatment, Mr. MOORE's opinion is that "constitutional alteratives" are of little or no value. The essential part of the disease is not the ulcer, but the solid subjacent tissue, and it is this which must be destroyed. This end may be obtained by caustics, and the form preferred by the writer is the chloride of zinc. Ordinary mild superficial application are of no use. The treatment by caustics is applicable only where the disease is of small extent; when extended to the size of a half-crown or crown-piece, excision is required; and both this proceeding and also caustics may be needed again and again, owing to the tendency of the malady to recur.

5. *Erysipelas Traumatica treated with Ol. Terebinthinæ.*  
By Prof. Dr. ALBERT LÜCKE, Berne.

[*Philad. Med. and Surg. Reporter*, January 2, 1869; from *Berliner Klin. Wochenschrift*.]

Prof. LÜCKE has applied the above-mentioned remedy with success. We will only cite one of several cases reported.

CHRISTIAN OPPLIGER was under treatment for complicated fracture of the leg, and May 12th, 1868, a small sequestrum was extracted. Evening, May 13th, emesis, headache, bodily temperature 40° C. A very lively erysipelatous redness about the wound, of the size of several hands, lymphatic glands of groin swollen and painful. Application of ol. terebinth.

Morning of the 14th. Temperature 38°6; erysipelas somewhat paler. Evening. temperature 38.

On the 15th, erysipelas gone, temperature normal.

Our author did not observe local irritation follow the application of the oil; the patient only felt a slight, temporary burning sensation.

The method was tried with entire success in about nine cases of traumatic erysipelas.

6. *Caries treated successfully with local lye-baths.* By Dr. P. HOCHMAYER, Hermannstadt.

[*Wiener Med. Presse*, 5 July, 1868.]

Dr. H. reports three out of a number of successful cures of caries by concentrated lye-baths. The first is one of caries of the knee joint in a girl, 18 years of age, not scrofulous. Baths with



caustic potash reaching above the knee, which were at first employed, having proved useless, a pediluvium of very concentrated lye was ordered every morning and evening, of half an hour's duration. In the course of 6 weeks, the suppuration improved in quality, and the bare bone could no longer be felt; after 10 weeks, the wound closed and there was no return of the disease.

The second case was one of caries of the lower end of the right tibia, on both the anterior and posterior surfaces, the anterior and posterior ulcers having no communication. Lye foot-baths, as above, morning and night, of 20 minutes' duration, effected complete cure with free use of the joint in 8 weeks, without the use of any other remedy.

The third case, a woman aet. 65, had an inflammation of the third phalanx of the middle finger, caused by the prick of a needle. After 9 weeks the point of puncture showed a soft tumor without fluctuation, the phalanx was extremely painful, the bone itself increased to more than double its volume. The finger was bathed in lye several times daily. Healing took place after a treatment of 6 weeks without external discharge, restoring the mobility of the joint.

7. *On Operations for Caries of Bone.*—BY HOLMES COOTE, Esq., Surgeon to St. Bartholomew's Hosp., London; and by F. LE GROS CLARK, Esq., Surgeon to St. Thomas' Hosp.

[*Brit. Med. Journal*, October 17, and 24, 1868.]

We find in the *Journal* quoted the expression of an opinion which is valuable, as coming from two prominent surgical authorities of London. Mr. COOTE says:

I have been long convinced that the results of operations undertaken for the removal of carious bone are unsatisfactory. We see case after case in which the surgeon gouges away as much as he dare of the diseased structure; and yet he finds, when the period for the cicatrisation of the wound comes about, that the fistulous sinuses still remain open, and that the annoyances to the patient are as great as before. A second and third operation may be recommended and performed, and still the relief is incomplete, until, finally, a cure is effected by natural processes.

These reflections lead naturally to the question, What is caries? Is the disease of such a nature as to admit of beneficial treatment by surgical operation?

We find, in reference to this question, no small difference of opinion among surgical authorities. Some mean by the term, simple ulceration

of bone; others, chronic suppuration of the cancellous tissue. Mr. STANLEY often defined it, in my presence, as "unhealthy ulceration of bone." Mr. ERICHSEN speaks of it as a disease characterized by increased vascularity, softening, and ultimate disintegration of the osseous tissue.

Perhaps the last definition expresses best the true nature of caries; but it is wanting in accuracy of detail.

Caries may be said to have its seat, with scarce exception, in the cancellous structure of bone, such as the bodies of the vertebræ, the bones of the carpus and tarsus, or the spongy extremities of the long bones. As already observed, the disease commences with increased vascularity (ostitis or osteomyelitis); and I think that I have never known it to be transmitted from the soft parts to the bone. It has always commenced in the bone itself. As the disease proceeds, it causes molecular disintegration of the osseous tissue, which comes away in the form of minute fragments mixed with the pus. After a time, larger portions may perish and become detached; but, unlike that which is observed in simple necrosis, these carious sequestra do not represent the whole of the diseased part. One of the most intractable forms of caries is that termed caries fungosa (Volkmann), which is characterized by both ulcerative destruction and the production of an abundant granulation. The bones become mouldering, osteoporotic and thinned, in parts absolutely destroyed, and the medullary space being filled by a reddish-colored marrow. The granulations lose their florid red color and become pale; there is an abundant deposit of fatty matter in the neighborhood; and the discharge becomes offensive and discolored. It is this form of caries which especially attacks the bones of the carpus and tarsus. Portions of eroded bone may be detached, but the morbid action extends far beyond their sphere, and usually more bones than one are involved in different stages of the same disease. The pressure of the granulations is followed by absorption and alteration in contour, while the internal disintegration may terminate in leaving little more than an external shell of compact, but thinned and light tissue.

This is the disease, and such the conditions of the morbid parts, which we in modern surgery attempt to rectify by the operation of gouging away the diseased bone. The results have not realized my expectations, except in cases where bone, already detached, admitted of easy removal, or where an emptied cloaca, surrounded by healthy bone, could be scraped so as to relieve it of its soft and unhealthy lining.

Under the most favorable conditions, the prognosis is far from good; but I am inclined to doubt whether the patient's condition would not be better, after a period of twelve months, and simply kept at rest and in good air, than if he had undergone the usual operation.

And these views are sustained by Mr. CLARK, viz :

Many years since, I discarded the use of the gouge in treating carious bone, and I am glad to find my convictions on this subject confirmed by Mr. HOLMES COOTE. The progressive disintegration of cancellous tissue is essentially identical, in all its leading features, with ulceration of

soft parts. In some instances, this destruction, or death, is rapid, as in phagedæna; or slow, as in scrofulous subjects. The increased vascularity when present, is really due to the reparative effort, and generally a measure of its activity; and is not a necessary accompaniment of the destructive stage. How do we treat abscess or ulcer, which are, in fact, but modifications, in their mechanical features and relations, of the same condition? We open the abscess, and take care that its contents shall have free vent; but we do not scoop it out, because it happens to be foul from the presence of disorganised tissue; nor do we scrape the surface of a foul ulcer. But we stimulate the sluggish parts with appropriate applications, and extend a narrow or sinuous opening, so as to give free vent to the discharge.

My practice, and what I regard as the rational treatment of these cases, is embodied in the following passage, which I extract from one of my Clinical Lectures, published in the *Medical Times and Gazette* for February 16th, 1861: "As regards operations for the removal of carious bone, I cannot say that my experience justifies my recommending the proceeding of gouging out the diseased texture. My belief is, that violence thus offered to the parts often involves the surrounding healthy bone in diseased action, and thus leaves the patient in a worse state than before. The condition is analogous to that of an excavated ulcer in soft parts, and seems to me to be more amenable to treatment adapted to such state. Sinuses may be freely laid open, and suitable dressing employed, to encourage a healthy action and spontaneous cure. But I am aware the weight of opinion, as regards the general practice, is adverse to this negative treatment."

Such has been my practice for many years; and I may add that I have found considerable advantage in the use of diluted acetic acid (which I have latterly substituted for phosphoric) as a bone-solvent, as well as a stimulant in carious cavities which have been previously laid freely open by external incision. Caries is usually primary; rarely secondary on ulceration of the skin surface, but not infrequently so by extension of disease from a synovial surface. In the knee-joint, this secondary condition, destroying the cartilage in its progress, is often met with; and I think still more frequently in the tarsus, where the continuity of the synovial membrane favors and guides the extension of the disease.

S. *Notes on Diseases of the Joints.* By F. HOWARD MARSH.  
[*St. Bartholomew's Hospital Reports*, Vol. IV, 1868, p. 179.]

These interesting "notes" by Mr. MARSH are "based chiefly on cases that have occurred in the hospital during the present year" (1868), and which are reported in connection with them. We regret that we have not space for the cases, but must confine ourselves to extracts from the notes.

The conviction is daily gaining ground that joints are capable of, and indeed naturally prone to, a much greater amount and perfection of repair

than they have generally been supposed to admit of. For, treated with rest long continued and as absolute as it can be made, first by a splint to prevent movement, and secondly by continuous extension by means of a weight, to keep the articular surfaces from being pressed together during spasm of the surrounding muscles, the majority of cases of injured joints that are admitted into the Hospital, and many cases also of even advanced disease, at least in young persons (under the age of 25), are now well and readily cured. And clinical experience of the reparative power of joints is confirmed by what is found in dissections. I have carefully examined all the joints that, in the past year, have been removed at St. Bartholomew's either by amputation or excision, and it has appeared remarkable, even in those worst instances in which it has been imperative to amputate the limb, in order to save the life of the patient, how limited has been the disease, and how much reparative action has existed side by side with the process of destruction.

*On the value of continuous extension by means of a weight, in the treatment of joint disease.*—In a paper in the second volume of the "Reports" I invited special attention to the point which has often been insisted on, especially by Mr. HILTON (Lectures on Rest and Pain, 1863), that the evil progress of many cases of joint disease is due mainly to pressure of the articular surfaces against each other, which is produced (1) by the spasmodic contraction of the surrounding muscles, and (2) by movement of the limb; and several cases were related in which all the symptoms had quickly ceased when the joint surfaces were kept apart by continuous extension secured by means of a weight suspended from the extremity of the limb. Subsequent experience has strongly confirmed the confidence with which I ventured to advocate this method of treatment.

As a very general rule, in cases of acute disease, the weight speedily relieves pain and brings down the limb into a straight position; and it is a common observation that children, who while they wear a weight, are absolutely free from pain, will, if the weight is removed, relapse within a few hours into their old suffering from spasmodic jerkings of the limb.

*On the treatment of hip disease.*—The principles on which any disease is treated must depend on the view that is taken of its nature. Is, then, hip disease as it is so commonly seen in childhood a merely local disease, or is it a result of the strumous constitution of the subject of it? . . .

It was formerly agreed by almost common consent, that hip disease was strumous; but more recently surgeons of the highest authority have expressed their belief that in very many instances it is not so, but that it has occurred in healthy children, purely as the result of a neglected injury. . . . Agreeing with the first, that hip disease is, in a large majority of cases, strumous, I think the conviction that it is so has frequently led to a false conclusion as to its proper treatment. For struma being a constitutional defect, it has been held that its manifestations must be treated by constitutional measures, while local measures are of comparatively little importance. These children have been thought too delicate for confinement to bed or even to the house; they have been sent to the sea-side. . . . The want of success that formerly attended the treatment of hip disease was in

great part due to the fact that, in order to secure fresh air, which was considered absolutely necessary, the child's joint was never at even moderate rest.

On the other hand, I venture to think that some surgeons now-a-days, while they are right as to the treatment that should be adopted, have taken a wrong view of the nature of these cases.

The truth seems to be that, strumous or not strumous, they all and equally require careful and prolonged local treatment, and that with this all tend to recovery, though doubtless they will do this at different rates of progress.

It is very advisable that a child with hip disease should have a separate bed. . . . A horse-hair or flock mattress should be used, and beneath it should be a board to make its surface firm and flat. It is better not to use a pillow, a child sleeps as well without as with one; and, as he is sure to lay his shoulders as well as his head upon it, it is mischievous in two ways—it makes him slide down towards the foot of the bed, and it prevents the limb from being brought into a straight line with the trunk. A cradle should be used, for the weight of the bed-clothes, if allowed to drag on the foot, will permanently evert the limb. . . .

I feel the greatest confidence in stating that in the very large majority of cases in which the disease is not far advanced—that is, before there is displacement, or long-standing muscular contraction, or abscess—continuous extension by means of an appropriate weight is the best treatment for hip disease that is at present known. I have watched its effects in a large number of instances . . . and as a rule, to which there have been very few exceptions, muscular spasm and pain have very soon ceased, and, where the treatment has been persevered with, excellent results have been obtained. But sometimes collateral means must be adopted. Many children are restless, and some have night terrors, during which they start up suddenly or toss themselves from side to side in bed. In such cases a long splint should be used; as a very general rule this should be placed not on the diseased, but on the sound side, for then the child will be more completely restrained, and there is no risk of injuring the diseased structures by pressure or bandaging, or of straining the joint by the dragging of the splint when the child is moved. A long splint, too, should be used when there is a difficulty in getting the patient to lie on his back, as it is necessary he should. . . . In a few cases, pain has persisted without any obvious cause, and in spite of many combinations of treatment; but in one instance it was almost immediately removed by the application of a splint to the diseased limb.

As the disease advances it becomes complicated with deformity of the limb and abscess in or near the joint. The deformity that occurs is due in great part to the spasmodic action of the surrounding muscles. In some instances the thigh is simply flexed upon the pelvis, while in others the pelvis becomes twisted on the spine; or there is what is commonly termed dislocation of the hip. . . .

Flexion of the thigh on the pelvis should be corrected as soon as possible. While it remains the limb is shortened, and it gives rise to a very

serious deformity—lordosis—, which consists of a complementary anterior curvature of the lower part of the spine in consequence of the effort of the patient to straighten the limb. . . . The limb may be safely brought down under chloroform. . . . In some instances it is necessary and best to bring down the limb gradually, that is by repeated operations, rather than to do so at once. . . . After the straightening, a long splint should be placed on the sound side to keep the patient on his back, and a weight as heavy as he will bear (for a child 5 or 6 years old this may gradually be made six or eight pounds) should be suspended from the diseased limb. Straightening may, if necessary, be repeated at the end of ten days. The weight should be reduced as soon as possible—that is, when it is found that there is no tendency to recontraction. . . . Before the patient is allowed to walk, on his recovery, if there is any shortening of the limb, he should be furnished with a high-heeled boot.

The formation of abscess is extremely common in the course of hip disease. Comparatively few patients escape it, except those who are carefully treated at the first appearance of active symptoms. On referring to the notes of thirty cases I find that of these, twenty-eight have had abscess. So far as I have seen, this complication is less formidable than it is generally supposed; these formations are usually 'cold' and chronic, and although some give rise to severe pain by producing tension of ligamentous structures, and others attain considerable size, they do not appear to produce any severe constitutional disturbance, or to indicate extensive disease of bone. They are least mischievous when they are repeatedly opened with a small trocar, or by small incisions, so that their cavity may gradually contract.

It is scarcely safe to lay them open at once by a free incision, and it can not be necessary to do so. Many must ultimately, no doubt, be freely opened; but if they have been previously tapped with a trocar, they appear more tolerant of active treatment. It is better, if possible, to defer the opening of abscess that has formed quickly with heat and tenderness of the surface, until it has subsided into a more quiet state. In a few instances matter has burrowed widely and formed many sinuses, but in the majority these abscesses after being punctured have discharged for a few weeks, or for three months or longer, and then have soundly healed. Generally the puncture, even of large abscesses, has been followed by no constitutional or local symptoms whatever. I have opened those that form in front of the joint, and which are in the neighborhood of the trunk or branches of the femoral artery, by the method recommended by Mr. HILTON (l. c., p. 120). A small incision is made in the skin, and a director is carefully thrust through the soft parts, and into the sac of the abscess; as soon as matter is seen escaping by the groove of the director, a pair of fine dressing forceps is passed along its track and the blades forcibly separated. Besides its safety, this method offers the advantage that the opening is not so likely to close as that which is made by a simple incision.

9. *Successful Treatment of a Traumatic Abscess of the Brain by Persistent Exsuction of the Pus, without previous trephining.* By Hofrath W. TH. RENZ. (Tübingen. 1868. 8vo.)

[Bibliographical notice in *Schmidt's Jahrb.*, CXXXVIII, p. 260, 1868.]

The author asserts, in the above essay, that no case of traumatic abscess of the brain, which is accessible only by a relatively small cranial wound, should be treated otherwise than by the exsuction of the pus ("Adspirations-methode"), and relates the following case in favor of his assertion :

The patient, æt. 30, miller, had been stabbed in the head in a riot four days previously; the blood had spirted out in a full stream, but was stopped by cold applications. The wound itself, situated on the right side of the forehead 2 1-2 inches above the margin of the ear at the border of the hairy scalp, had soon healed, and showed, when examined on the 13th of March, a red cicatrix 1-4 inch long, covered at one spot by a thin scab. The patient had thus far performed his work, but the headache which before this time had been experienced only in stooping became more and more severe, and had been exceedingly violent in the preceding night. Pulse 60, otherwise nothing abnormal to be detected. The author regarded this condition as an incipient meningitis, the cause of which was in all probability a piece of the instrument that had inflicted the wound. On the third day, the cerebral symptoms increasing, a crucial incision was made, and a little below the level of the bone the wedge-shaped cross-section of a broken knife became visible. By aid of bone-forceps the body was successfully removed, proving to be the entire blade of a knife 2 1-2 inches long and 1-4 inch wide; at the same time a pretty large quantity of bloody-colored, stinking pus was discharged. The author rejected the plan of trephining for the purpose of giving free exit to the pus, but seized the idea of sucking it out by means of the hypodermic syringe. Two syringefuls were removed at the first sitting, and the procedure was practiced morning and evening.

The hypodermic syringe being too small, however, and armed with a lance-shaped point, and the working of the piston by the hand giving a jerking motion, R. had an instrument made which he calls an "*Adspirator*" or "suction-sound,"—a glass syringe with a ratchet mechanism by which the piston is moved. (The instrument is figured in the original essay.)

The suppuration in this case was variable in quantity, though the general condition gradually improved. In spite of a little excess on the part of the patient, the suppuration diminished considerably in the second week, and toward the end of April, R. could penetrate only about 1-4 of an inch. The wound soon healed. A new excess however again called

forth the phenomena of meningitis, so that R. renewed the crucial incision, separated the cicatricial band filling the wound in the bone, and plunged the lance of a hypodermic syringe deep into the brain; half a syringe of pus was discharged; the "adspiration" of the pus was continued. Exquisite hemiopia supervened, which the author considered as the consequence of the extension of the purulent exudation to the lower surface of the brain. This phenomenon also disappeared (strong mercurial inunctions, after STROMEYER's directions, were made), and the patient recovered entirely.

R. regards this method by suction, both diagnostically and therapeutically, a simple and mild remedy in the treatment of cerebral abscess. As it is at best doubtful whether the pus contained in traumatic abscesses of the brain is ever absorbed, but has been many times observed that the abscess, after a latent course for years, finally led to fatal encephalitis,—there necessarily results the indication to remove the pus wherever this is practicable. Another advantage of the "adspiration" of pus, the author thinks, is the circumstance that by diligent removal of the pus the walls of the abscess are approximated, and union is thereby essentially promoted.

At all events, the author's proposal is worthy of further unbiased trial.

10. *Spina Bifida successfully treated by Injection.* By Dr. ROUX, Meximieux.

[*Bulletin gén. de thérapeutique*, Jan. 15, 1869, p. 27.]

The author rightly remarks that the cure of spina bifida, "when it can be effected," is, on account of its rarity, an important fact in medicine.

Louise Girard, 6 weeks old, otherwise in good health, presented in the glutæal region an enormous congenital tumor which extended from the end of the sacrum to the lower third of the thighs, measuring in this direction posteriorly 22 centimètres, 18 cm. in front, from the vulva to its summit, and 15 cm. transversely. The projection and form of the buttocks were completely effaced; the vulva was in place, but the anus was found at the centre of the anterior face of the tumor, with which at first glance it seemed to communicate. In running the finger along the sacral fossa from above downwards, an osseous plate is felt, which tapers off and terminates in a true point. To render the diagnosis quite certain, the author made an exploratory puncture by a capillary trocar and drew off about 40 grammes



of a clear fluid containing but little albumen. The sac being now less distended, he could pass his finger on the under surface of the osseous lamina spoken of, and recognize the existence of a second one, larger, with an anterior curvature, forming a second coccyx. Cautiously exploring upwards, he detected a hiatus—an abnormal opening of the sacral canal; the two bony plates representing the lower end of the sacrum and the coccyx divided in two in their long direction.

The diagnosis having been established, the following operation was made: The tumor was evacuated by a small trocar; the base of the sac was “strangled” by the fingers of assistants to guard against the introduction into the spinal canal of the fluid intended to be injected, and 30 grammes of the following mixture were injected: Aq. dest., 40 grm; Tinct. Iod., 10 grm; Potass. Iodid., 10 centigrm.—left in the sac for five minutes and evacuated completely.

The child remained pale, cried plaintively, refused to nurse; it was expected to die every moment. But after ten hours it became quiet, its face resumed color, it nursed, and slept part of the night. In 48 hours, the tumor assumed about a fourth of its former size and became hard and tender; three days after the operation, it began to diminish, and fourteen days after the operation there remained only a solid node of the size of a walnut. The cure is perfect. (The operation was performed in July 1865, and the patient is heard from several times a year). The author attributes the success to the moderate strength of the injected liquid, the complete evacuation of the fluid contained in the sac, the “excessive” precautions against the entrance of the iodine solution into the spinal canal, and to the withdrawal of the injected liquor, even to the last drop, by sucking out the canula.

11. *Salivary Calculus from Wharton's Duct.* By JOHN L. FIRESTONE, M.D., Salem, Ohio.

[*Amer. Journ. Med. Sc.*, Jan., 1869, p. 285.]

A farmer, æt. 50, called on me with a tumor in the floor of the mouth, under the right side of the tongue, which had been noticed a “good while,” as it interfered somewhat with mastication, though not with deglutition.

On examination a hard tumor was felt in the place designated, apparently about the size of a hulled walnut, and on the floor of the mouth Wharton's duct was seen unusually open. A probe was easily introduced,

and immediately below the surface struck a hard, rough calculus. Introduced a narrow-bladed bistoury and opened the sac parallel with the tongue, and with the scoop end of a director, I removed a calculus 14 lines long, 8 broad, and 6 deep, and 1 1-2 drachm in weight. It was yellowish-white; oval, with flattened sides; and was composed of "phosphate and carbonate of lime, held together by animal matter."

This salivary calculus is probably of unusual size. ROKITANSKY says, referring to these formations, that they vary in size "from a millet-seed or a pea, to even that of a hazel-nut"

12. *How to restrain Hemorrhage in Amputation of the Breast.* By Prof. FRANK H. HAMILTON.

[*Medical Gazette*, Dec. 5, 1868.]

In describing a case of amputation of the breast, Professor HAMILTON resorted to a new device for preventing too great a loss of blood:

In order to restrain the bleeding until the vessels could be secured by ligatures, I adopted the following procedure which I have never used before nor seen suggested by others: After the patient was fully under the influence of ether, I encircled the chest with two long strips of adhesive plaster, each of which was about two inches in width and long enough to surround the chest completely and allow the ends to overlap each other. They were drawn tight, but not so tight as to interfere with respiration. One of them passed under the breast at a point about one inch from the line I had indicated to myself as the probable line of incision; the other passed above the breast, between it and the axilla, at about the same distance from the projected upper line of incision. The two strips of plaster forming an ellipse completely enclosing the breast. Within this ellipse the incisions were made, and it was apparent that by the pressure of the plasters the bleeding from all the tegumentary and superficial muscular vessels was completely, or almost completely controlled; so that the amount of blood lost in the operation was comparatively trifling.

On closing the wound I did not remove these strips. This was an error which on another occasion I should avoid, since they prevented the complete and accurate coaptation of the tegumentary flaps, and allowed the margins of the wound to become everted.

The advantages of this procedure are now so apparent to me that I wonder that it has never suggested itself to me before; and I can not but think that ingenious surgeons must have tried it. . . . It ought to be added that it is only the temporary control of a part of the bleeding which is sought to be obtained by this method, in order that the surgeon may proceed with more assurance to the completion of his operation, and that he may not be obliged to arrest his incisions for the purpose of tying vessels. Yet it is quite certain that a large proportion of these smaller vessels, if only compressed temporarily, will not bleed after the pressure

is removed; so that not only will the immediate loss of blood be less, and the surface of the wound be more open to the eye of the surgeon, but fewer vessels will have to be secured finally by the ligature, and a more prompt union may be anticipated.

13. *The Sutures for Vesico-vaginal Fistula Inserted by Means of Canula-Needle, with Report of a Case.* By Prof. PAUL F. EVE, Nashville.

[*Richmond and Louisville Medical Journal*, March, 1869.]

In 1860, I utterly failed to benefit a patient laboring under that most distressing affection in the female, *vesico-vaginal fistula*, in which a clamp suture was tested. There is little doubt now but that this case could have been relieved by the recent improvements in gynecology. Still I have never been satisfied with the practice pursued in introducing the sutures for closing the fistulous opening, after its edges are prepared for reunion. The short, curved needle, insecurely held and imperfectly directed by long forceps, armed with a long, double-silk thread, having attached to it a long silver wire, also doubled, the whole of which is dragged through the entire tract made in the soft parts, with the traction on the cord at right angle to its proper course, is surely difficult, cumbrous, painful, tedious, unscientific, and now unnecessary. Frequently half an hour is consumed in this part of the operation, while the patient is in a constrained and exceedingly unpleasant position. By the canula-needle the ligatures may be applied at any desired point in a few minutes. In witnessing an operation for this sloughing of the vesico-vaginal septum, to which I was kindly invited in the Sisters' Hospital in St. Louis last fall, and, impressed with the difficulty and delay in applying the sutures, the hollow needle was proposed, and fortunately an opportunity soon occurred for proving it.

On the 15th of November last, I was called to a case of vesico-vaginal fistula in a young lady, who, during her first delivery, a week or two previously, had had the bladder neglected for many hours, which resulted in a transverse fissure of about an inch and a half by three-quarters of an inch, and situated about an inch and a half from the orifice of the urethra. The 16th of January, 1869, assisted by Dr. SHUMARD, Professor of Obstetrics, etc., in the Missouri Medical College, and Drs. POINDEXTER, PREWITT, MOORE, and MAUGHS, the patient was placed in the position now recommended by Dr. SIMS, and accepted by the profession; the anterior lip of the fistula was freely excised by a knife and the posterior one with scissors, then with the canula-needle, such as I have been using for years, carrying a very fine silver wire, about nine sutures were introduced in some ten minutes. Tiemann's improvement, as well as Dr. Bryant's (formerly of St. Louis, now of Lexington, Ky.), each consisting of a longer canula, with forceps to hold and assist in pushing forward the wire, were both tried, but found to bend in thrusting it through the parts, and, moreover, permitted the metallic ligature to kink. The simple canula was admitted by all present to be the best instrument, and gave entire satisfaction in

planting the ligatures. I prefer, too, the ordinary knot, for one can see the line of union and regulate the pressure in tightening the stitch. The suture-adjuster obscures this, nor can we tell how many turns to give the forceps in twisting the wire. After one knot, the adjuster may be used.

On the tenth day, after the usual treatment of such cases, which, in this instance was carried out faithfully, the sutures were all removed, except two, and these on the twelfth, when union of the most satisfactory character was found existing.

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#### VENEREAL DISEASES.

##### 1. *Treatment of Soft Chancre by Chloride of Zinc in Castor-Oil-Collodion.* By M. FRIANT.

[*Schmidt's Jahrb.*, CXXXVIII, p. 317, 1868; from *Rec. de mém. de médecine milit.*]

The author employs, in order to destroy the soft chancre with as great certainty and facility as possible, the chloride of zinc, in a mixture of 1 part to 10 of castor-oil-collodion, which however may be concentrated a little more without much detriment. In using the remedy, the chancrous surface is first carefully dried with charpie, when a few drops of the caustic fluid are applied to the ulcer by means of a pencil. The caustic dries and forms a very thin white pellicle upon the surface of the ulcer. The whole is covered with charpie or cotton, and the dressing is allowed to remain for 24 hours. Should the caustic touch the neighboring parts, this is of no account, because parts covered with skin will not be affected. The application of the caustic is followed by an acute pain lasting from one to two hours, gradually diminishing. After 24 hours the dressing is easily removed, and almost invariably the appearance of the ulcer is completely and favorably altered, the soft chancre is changed to an ordinary ulcer, which now heals in a few days, dressed daily with dry lint. Sometimes, it will be necessary to repeat the cauterization several days in succession. But even in phagedenic and in moderately inflamed chancres cicatrization is effected within a fortnight. The author prefers the above caustic to other remedies of this kind, because it is easily applied, causes less pain, and leaves no disfiguring cicatrices.

2. *Case of Syphilitic Acne (ulcerating) simulating Lupus.*

Reported from Skin Clinique of Charing Cross Hospital, under the care of Dr. TILBURY FOX.

[*British Medical Journ.*, Sept. 5, 1868.]

The following case is instructive in regard to (1) the differential diagnosis of lupus and syphilis, and (2) the treatment. The recognition of the disease as syphilitic demanded a plan of treatment wholly different from that which is called for in lupus, especially in reference to local applications.

The case was that of a single woman, C. W., aged 30, who was admitted Jan. 14th, 1868. As she entered the room, the patient seemed to present a large patch of ulcerating lupus, occupying the left side of the nose in its lower two-thirds. The patch had a dull red areola, but not of any very great extent; it did not sensibly exude; it was tolerably clean, and inclined to scab here and there. It was not painful, nor had it been so. The diseased surface, as a whole, was depressed below the level of the surrounding skin; and on closer inspection appeared to be uneven, being marked by depressions or pits, which were seen to be small ulcers, and in addition elevations, several of which were capped with little points. On questioning her, the following history was elicited: The woman suffered from primary syphilitic disease eight years since, which was neglected. This was followed by secondary mischief shortly afterwards. Five years ago "spots" appeared on the head, face, and legs; those on the latter were replaced by "ulcers." Scars now marked the site of those on the side of the head. The patient was at different times in St. George's, Charing Cross, and Westminster Hospitals for severe pains in different parts of her body, dependent apparently upon the syphilitic infection, for which she appears never to have been fairly treated. In one hospital she had her head shaved, was leeches on the scalp and temples, was blistered on the head and behind the ears, the blistered surface being kept open by the use of "green" ointment. On leaving the hospital no better, she seemed to have been treated by iodide of potassium, and became pretty well. But she had always had aching pains in her limbs, and referred to them as having caused her much suffering. She had been and was leading a fast life, was attacked by very low spirits, and fretted much. For some little time before the present illness, save the aching in her bones and head, she has been pretty well, but the pain had been so bad that she had "been obliged to get out of bed to sometimes get cool." Three months ago she had "pleurisy" after being wet, and went into hospital. Previously to admission, an eruption showed itself at the side of the head, just in front of the ear, in the shape of four inflamed pimples, which became after a time "mattery." Similar places appeared on the head, and these remained much the same throughout in regard to appearance. There were now about twenty pustules near the ear, which were isolated, and these were intermingled with little depressed scarrings. On the lower part of the cheek on the same (left) side was a patch of the size of a fourpenny-piece, made up of a few pustular elevations (acuiiform).

During the woman's stay in the hospital, small pimples came on her nose, and she thought they were "flesh-worms." After a while, they increased in number, becoming confluent, and produced a large ulcerated patch as described at the outset.

Dr. Fox pointed out that the disease bore close resemblance to lupus, and especially to what had been termed "follicular lupus," which was a misnomer. The follicles might be especially involved in lupus, but this was no reason for naming the variation a special disease. The character of the disease on the cheek was an ample clue to the nature of the alteration of structure about the nose. The distinct origin from acne-like spots of an indolent, painless nature, leaving in progress of disappearance marked pitting, sufficed for diagnosis from lupus which commences by tubercle. No doubt the disease on the nose was in reality a syphilitic acne produced by the crowding together of separate pustules corresponding to the glands (which were large and well developed in the patient), and breaking out into pretty free ulceration. These different features were well made out at the time of the patient first coming under observation. Against lupus, were the origin by pustules, the continuous nocturnal pains in the head and the limbs, the history of syphilitic affection, slight faucial redness, with old scars, etc. Menstruation had not occurred for three years. It also seemed that irritants had been used to the diseased nose, and had increased the ulceration. The woman was put upon Plummer's pill and iodide of potassium in increasing doses; and was told to use warm fomentations and apply zinc ointment. On the 26th she had rapidly improved, all pustulation had gone, and the healing process had nearly removed the ulceration; in fact, there existed only a red patch with little dry pits, the pains in the head and limbs had gone, and the woman had been "unwell," and expressed herself as being better than she had felt for a long time. Dr. Fox observed that a mistaken diagnosis would have led to the employment of caustics, most likely with the probable increase of ulceration, and certainly of the subsequent scarring, which is now comparatively slight. In other parts of the body, as the legs, caustics have been applied to former eruptions, and large and well-marked scars are left. Care in the use of caustics in syphilis was urged in regard to all parts where disfigurement would be inconvenient. In lupus, however, the case is different; hence the importance of a correct diagnosis in ulcerating diseases, especially of the face, and the desirability of employing prompt and judicious constitutional treatment.

### 3. *On Lesions of the Tendinous Sheaths in Secondary Syphilis.* By Dr. FOURNIER.

[*Half-yearly Abstr.* July-Dec., 1868, from *Gaz. hebdom.*, No. 41, 1868.]

1. The syphilitic pains vaguely referred to the knees are entirely produced in certain cases by tendinous lesions affecting either the ligamentum patella, or particularly the tendons of the *patte d'oie*, or again in some instances the extremity of the tendon of the biceps at the level of the head of the fibula, or perhaps even the tendon of the semi membranousus.

2. The pains in the feet and ankles are generally due to similar lesions affecting the extensor tendons of the toes, the tendon of the extensor of the great toe, or the peroneal tendons.

3. The pains in the wrist and hands result generally from lesions affecting the extensor tendons of the fingers.

4. Those of the elbow, and particularly of its flexor surface, frequently have their true seat in the tendon of the biceps muscle.

The pain in front of the elbow occurs very commonly in secondary syphilis. Many patients complain of the suffering at the bend of the elbow, and of their inability to straighten the forearm. This symptom has been attributed to various causes; to muscular contraction, to arthralgia, to periostitis, or even to a tumor not appreciable. Dr. Fournier has, in the majority of instances observed by himself, been readily enabled to explain the pain by a lesion of the tendinous extremity of the biceps. The finger pressed deeply into the region in front of the elbow over the tendon of the biceps, will excite at this point very acute pain, whilst all the adjacent parts will remain perfectly free from tenderness.

These tendinous lesions, described by M. Fournier, consist either in simple hydropsy of the tendinous synovial sac, or in a sub-inflammatory tendinous synovitis. Of their syphilitic nature there can be no doubt; from, 1, the frequency of these lesions in syphilitic subjects; 2, their production under circumstances and conditions always identical; 3, their almost constant coincidence with other undoubted manifestations of the diathesis, such as cutaneous or mucous syphilides, alopecia, and affections of the glands, joints, and head, &c.; 4, the absence of any other cause than syphilis to which they can be attributed.

4. *On the Treatment of Syphilis with Hypodermic Injections of Corrosive Sublimate.* By Dr. J. GRÜNFELD, Assistant Physician at the Clinic for Syphilis of Prof. v. Sigmund, Vienna. [*Wien. Med. Presse*, Nos. 17, 20, 24, 28, 43, 49, 51, 52, 1868, and 1, 1869.]

The very elaborate report of 50 cases in which subcutaneous injections of corrosive sublimate were employed to combat constitutional syphilis, is concluded in the last mentioned number of the *Presse* with a résumé of results. The author begins by repeating the advantages claimed for this method by its originator. Dr. LEWIN (*Annalen der Charité*, Berlin, xiv, 1868.) They consist in (a) the *rapidity* with which the syphilitic symptoms are made to disappear, which stands in a direct ratio to the quantity of sublimate injected pro die; (b) in the *certainly* and *precision* of success, which was attained even in desperate cases; (c) in the relatively *small number of recurrences* (after the subcutaneous method 31 p. c., after other anti-syphilitic treatment 81 p. c.); (d) in the *facility of execution*, and consequent com-

fort to both physician and patient; finally, (c) *in the very exact adjustment of the dose*, while the digestive organs are spared the irritating effects of metallic salts, and in its applicability in cases where the presence of cutaneous syphilides renders inunctions impracticable.

The author's own observations extended over more than 70 cases. The injections were usually employed once daily, in an average dose of 1-8 grain. The average duration of treatment was 93.7 days, whereas LEWIN found in his cases an average stay in hospital of 36.1 days. The author endeavors to explain the extraordinary discrepancy by pointing to the fact that the Vienna clinic very generally admits severer forms of the disease, and that patients in Vienna seek medical aid much later, on account of the want of a "moral police" in that city, than in Berlin.

LEWIN's statement as to the reduction of relapses to a comparatively small number, is considered premature; the author is not willing as yet to risk an expression of opinion on this point.

The aggregate quantity of corrosive sublimate used in each case ranged from 1 3-4 to 6 1-2, or an average 3.2 grains,—figures somewhat higher than those of LEWIN.

Symptoms of well-marked stomatitis (swelling and tenderness of gums, easily bleeding, tooth ache, furred tongue, bad taste, fætor) were occasioned in 8 cases; stomatitis with ulceration in 2 cases; profuse salivation did not occur. In 25 cases the gums were not touched at all. The local effects (after 1405 injections in 50 patients) were: 2 cases of abscess and 6 cases of superficial excoriation of the skin in small extent.

The author thinks that the subcutaneous injection of sublimate as a curative method in syphilis is practicable, that it possesses over all other mercurial methods the advantage of precision of dose and administration, but he cannot as yet assert that it is more rapid and certain or a better preventive of recurrences. "Considering, furthermore, that the pain incident to this mode of treatment renders its convenience in other respects valueless, and that there is besides a chance for the formation of abscess or of dermatitis, we believe that it will not supersede the inunction method. But in patients where neither internal treatment, nor treatment by inunction is possible without difficulty, it will certainly be indicated."



5. *On the Treatment of Syphilis by Hypodermic Injection of the Iodide of Mercury and Potassium.* By M. Aimé MARTIN.

[*Half-yearly Abstract*, July-Dec., 1868; from *Gaz. des Hôpitaux*, No. 107, 1868.]

M. Aimé Martin, though an advocate for mercurial frictions as a very useful, and in some instances the only successful plan of treatment for obstinate secondary syphilitic affections, still recognizes the objection to them, that a constant attention and great care is required on the part of the patient which it is not always easy to obtain. For this reason he reserves the friction treatment for exceptionally severe cases, and applies in ordinary cases a mode of treatment which can be more readily carried out. Struck by the immediate relief following the introduction of morphia into the subcutaneous tissues, M. Martin was led to inquire whether mercury, which is generally so ill tolerated by the stomach, and so badly absorbed, could not be administered in a similar way. The preparation he decided to employ was the iodide of mercury and potassium, procured in the following manner. A solution was made of four centigrammes of biniodide of mercury in one gramme of distilled water, the salt being rendered soluble by the addition of iodide of potassium. The solution thus prepared is transparent, of a lemon-yellow color, and with a slightly alkaline reaction.

The first patient upon whom hypodermic injections of this solution were tried was a man aged thirty years, who had had a chancre twenty-seven months before, which was followed by secondary symptoms. These had been treated by mercury administered internally, but with no good results. His trunk and limbs were covered by a papular eruption, the tonsils, tongue, gum, and oral surfaces of the cheeks were extensively and deeply ulcerated, the margin of the anus was surrounded by enormous mucous tubercles, and the inguinal and posterior cervical glands were much engorged. The tissues were pale and the muscles flaccid; there was a total loss of appetite, and an intolerance on the part of the stomach to mercurial remedies. On January 10, 1868, half a gramme of the solution was injected under the skin of the chest, near the middle of the sternum. The operation caused a sharp, smarting pain, which lasted for four or five hours, but was followed by no inflammatory action. After this the state of the patient became much improved. In the course of eighteen days the papular eruption diminished, the mucous tubercles disappeared, and the cervical and inguinal glands became smaller. Another injection at the same spot of two centigrammes of the biniodide on January 18, produced an unexpectedly favorable result. In the course of the next fifteen days all the bad symptoms described above almost completely disappeared. The patient was then submitted to a tonic treatment, and afterwards for a slight relapse of ulceration of the tonsils and the cutaneous papules, was ordered to take iodide of potassium and Van Swieten's solution internally. These remedies were well tolerated by the stomach, and caused a rapid disappearance of the lesions which were previously so tenacious.

Two other cases are reported in which severe general syphilitic affections were cured or much relieved by the hypodermic injection of the biniodide of mercury. In the second case, that of a woman aged twenty-six years, an injection of two centigrammes the biniodide, at the inner and middle part of the left fore-arm, set up acute inflammation, which resulted in the formation of an eschar of the size of a twenty-centimes piece. In the third case, two centigrammes of the biniodide were injected hypodermically over the middle part of the left trapezius muscle of a young man aged twenty-three. Acute pain was caused, but this soon ceased. and was not followed by any inflammation at the seat of the puncture.

6. *On a New Method of Topical Applications and Injections in the Urethra, etc.* By ADDINELL HEWSON, M.D., one of the Surgeons to the Pennsylvania Hospital.

[*Pennsylvania Hospital Reports*, Vol. II. 1869.]

In the treatment of gonorrhœa by injections through the ordinary long nozzled syringes, or by applications with the mop through the endoscope, there is a liability "to drive the disease further in by pushing some of the virus beyond the points to which the solution . . . may reach." To obviate this difficulty the author suggests injections through a double catheter by a continuous stream from an apparatus similar to Thudichum's nasal douche.

The apparatus consists of a nearly straight double catheter, No. 8, made of silver, with the eyes opening into either canal at the extreme end, so as to allow of a solution being thrown with facility well beyond it when in the urethra, by the upper canal, which is connected by gum-tubing with the bottle, and to return with equal facility, and escape by the lower canal into a vessel on the floor. For a perfect flow, it is essential that these openings should be in the axis of either canal.

The bottle I have been in the habit of using is much simpler than Thudichum's, and has the additional advantage of being more easily managed on starting and stopping the flow of the wash. It is an ordinary six-ounce, wide-mouthed phial, with two glass tubes through the cork. One of these, for the entrance of air, projects well into the phial, and has its inner end bent so as to nearly touch the side, for the purpose of preventing the escape of any fluid by it when the bottle is tilted over. The other for the exit of the fluid, is straight, and projects beyond the cork an inch or more, for the gum-tubing to be fitted on. Such a bottle needs only to be well tilted to cause a steady stream to flow from it, and the force of that stream can be regulated by the height at which the phial is held. To stop the flow, if such should be desired, before the phial is emptied, all that is necessary is to place it in a vertical position, without lowering it. The catheter, by being connected with the phial by about

three feet of elastic tubing, can be introduced whilst the phial is resting on the floor or a chair near to the patient. It should be passed gently along the track of the urethra, well beyond the point of the greatest tenderness; and to facilitate this I prefer dipping it into some mucilage of flaxseed or of slippery elm; or, what is somewhat more convenient to keep in one's office, a tincture of saponaria added to some water—for any of these acts as well as an unguent for the purpose, and does not have the effect of the grease of protecting the surface from the influence of the solution which we may wish to apply. I attach great importance to this precaution, because I am satisfied that without it all forms of deep injection must often fail of success.

When the catheter has been introduced and passed well beyond the evident seat of the disease, it is to be held in place by one hand whilst with the other the phial is to be raised high in the air, and all other things being ready, the patient's clothing out of the way of the returning fluid, and a vessel in proper position on the floor to receive such, it is to be tilted over, and the stream, preceded by the gurgling of some air-bubbles, will begin to flow into this vessel from the lower canal of the catheter. When the current is thus fully established and the part of the urethra beyond the end of the catheter is well washed, the instrument is to be gradually withdrawn whilst the stream is being steadily kept up, so that the whole of the urethra in front of that point will be thoroughly washed out. In this way from five to six ounces of a solution can be used at each sitting. The patient can even administer the injection himself in the less acute forms of the disease; but when the urethra is very sensitive it is always advisable for the surgeon to make the injection, as he is then certain of its being made in a thorough manner.

The success which has attended the use of this method of making application to the urethra has, in my own practice, and in that of others, who have been kind enough to communicate their experience to me, been of the most satisfactory character, and far exceeded my most sanguine expectations.

Of the twenty-three cases of acute gonorrhœa, where the opportunity presented of making an injection in this way within ten days after the disease was contracted, not one required it to be repeated more than three times, at intervals of twenty-four hours apart; and the wash used, in all instances, was a simple disinfecting one, either of sodæ sulphitis, gr. x to fʒj, or potass. permang., gr. j to fʒj.

In the more advanced stages of the disease I have recommended and applied the former of these only. I have also used it in gleet, but have not found it as efficient as those of a weak solution of cupri sulph., or as the applications of solutions of nitrate of silver through the endoscope.

Seven applications has been the utmost number I have had to make in cases of some standing, but where there was no evidence of anything like granular change.

Other and even better results might be obtained in this way by the use of other agents, but I refrained from trials of them, as it was not my purpose to test them, but the method of making the applications, and to

do this most accurately, I deemed it advisable to confine myself to one or two simple agents.

On occasions where the discharge was so thick and ropy as to close the eye and prevent the flow, I have used a syringe in place of the douche.

The author has also used the apparatus with a curved form of the catheter, in diseases of both the bladder and uterus,—in cystitis, endometritis, hæmorrhage, and vascular polypi of the uterus.

### HYGIENE.

#### 1.—*Disinfectants and Deodorizers.* By M. VERSTRAEL.

[*British Medical Journal*, October 10, 1868.]

M. VERSTRAEL, in a paper read before the Academy of Sciences, of which the *Chemical News* gives an abstract, proposes to attain the conditions required of disinfectants by the following process:—1. To decompose the sulphide and carbonates of ammonium, the chlorides are employed, either of iron, zinc, or preferably manganese. Sulphates are absolutely proscribed, for the reason that the putrefying matters react on the sulphate of ammonia formed by double decomposition, the final result being the evolution of sulphuretted hydrogen, so that after a little time it is necessary to disinfect a second time. The chloride of manganese proposed as a disinfectant would be obtained from the chlorine residues of manufactories, a product which is stated to be valueless. The residues contain too much hydrochloric acid to be immediately available; the acid is neutralized either by the oxides of iron or zinc, or by dolomite. By this saturation of hydrochloric acid with lime and magnesia, the value of the product as a manure is greatly enhanced. Experiments on a large scale showed the product to be very rich in nitrogen and in phosphoric acid, and the fluid after this treatment was found to contain no phosphoric acid. Manganese, as well as magnesia, has been demonstrated by the recent works of M. Peligot to be easily assimilated by plants. To render the action of the chloride of manganese still more efficacious, 5 litres of chloride of lime solution of 12° are added to 100 litres of the manganese solution, 2. Notwithstanding the value of the disinfectant thus prepared, metallic salts by themselves can effect no complete and permanent disinfection; no influence will be exerted upon the offensive odor, *sui generis*, of the refuse matter. The antiseptic agent introduced for this purpose is tar solidified by admixture of cinders, deprived of sulphurous compounds by exposure to the air for fifteen or eighteen months. In this mixture are contained a considerable quantity of sulphate of alumina, 15 or 20 per cent. of finely divided carbon, 50 or 60 per cent. of nitrogen and protosulphate of iron and silica in small quantity. In the place of the solidified tar, the heavy oil of tar residues has been employed with equal success. Lastly, to clarify refuse water, a solution of impure sulphate of

alumina, employed in the dose of a *kilogramme* per cubic *mètre*, has been found to give very remarkable results; this solution serves to clarify the liquid and to cause the deposition of the solid matter. A cesspool of 20 cubic *mètres* in Rue des Jeuneurs was treated with 650 *kilogrammes* of manganese and 30 *kilogrammes* of chloride of lime liquid, then 185 *kilogrammes* of the aluminous powder with tar. After the liquid had been agitated and allowed half an hour's rest, it was clear and inodorous. The sanitary inspectors and other critics who witnessed the experiment, testified that the matters were completely disinfected. After the liquid had been poured off into the sewer, the atmosphere of the receptacle was tested by the lowering of a light, after which two workmen descended, who found no other odor than a slight one of benzol.

2. — *The Relative Power of Certain Disinfectants.* By  
Prof. PARKES.

[*London Lancet*, February, 1869.]

This has lately formed the subject of a very carefully devised series of investigations by Professor Parkes at Netley Hospital, and the subject is one of such interest at the present time that we make no apology for dwelling upon it. It was, of course, a matter of vast importance to the War Office authorities to determine precisely the relative powers of different disinfectants, and notably of carbolic acid, and of the definite quantities required to obtain their full effects.

Three series of experiments were made of the different chemical agents under different conditions of temperature, &c., and Dr. Parkes also records the influence produced in his own person by the sewage emanations. The experiments were numerous and of crucial character, and the results somewhat unexpected. The carbolic acid series occupy the highest position in the list, but the amount required is large, at least sixty grains of the crystallized acid being necessary for the solid discharge of a man daily at a temperature of 50° Fahr., and even then fæcal smell is not prevented, nor are the origin and development of vibriones entirely arrested. Dr. Parkes finds the liquid preparations more efficacious than the crystallized acids, and the impure preparations appeared more powerful than the pure. He says that no decided differences could be traced between the carbolic acid of different makers. Two kinds of disinfecting powder, though of very different composition, appeared practically about equal. It follows, we think, if disinfectants require to be used in such quantities as he found to be necessary, that the question of expense must practically tend to curtail their employment considerably. It comes to this after all, that we can not by chemical agents altogether counteract the evil effects arising from sewage decomposition. Nothing but a good and properly constructed system of drainage is to be relied upon for our barracks and towns.

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## Editorial.

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### LEUCOCYTES.

The role which late researches in histology and experimental pathology are ascribing to the white elements of the blood is daily increasing in importance. Although the discoveries of COHNHEIM,\* or rather the views which he somewhat prematurely based upon them, have escaped criticism, the facts observed have not been refuted.† They have been followed, however, in a brief space of time, by two interesting observations of some other phenomena which must impress the unbiased reader strongly in favor of COHNHEIM's position. We purpose to lay these observations before our readers in such extracts as our space may allow, and cast a glance backward at the important investigations that preceded and paved the way for the new facts.

We will not go back farther than v. RECKLINGHAUSEN's discovery, published in 1863,‡ that pus cells are contractile, that they possess the faculty of locomotion by virtue of their power to alter their form; and that these cells, by their contractility, are also enabled to take up and into their substance foreign bodies of small size (insoluble particles of various pigments, etc.). This discovery of contractility and the power of migration proved at once a forcible argument in favor of the identity of the cells of pus, lymph, mucus, and the white cells of the blood. VIRCHOW, long ago, had shown that a morphological difference between the white blood cells and those of pus could not be

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\* We refer the reader to this Journal, Vol. V, p. 117, 1868.

† Prof. Koloman Balogh, of Pesth, in Virchow's Archiv, XLV, p. 19, 1868, endeavors to refute Cohnheim's observations, aside from certain grounds of improbability he adduces by stating that he, in repeating the experiment on the mesentery of the frog, did not see the white blood corpuscles pass through the walls of veins. Nevertheless he did see the crowding of these bodies in the marginal zone of veins; he did also observe an increase of similar elements in the surrounding tissue, says they must result from division of the connective tissue corpuscles, but did not see this division actually occurring. The learned Professor has himself supplied the critique of his own argument.

‡ Ueber Eiter- und Bindegewebskörperchen. Virchow's Archiv, XXVIII, p. 157.

detected. Moreover, the researches of v. RECKLINGHAUSEN had resulted in demonstrating, that corpuscles of the same size and optical properties, also possessing contractility, exist in normal connective tissue. The importance of these investigations, both in themselves and as a starting-point of later studies in the same direction, can not be overrated. "There can hardly be a doubt," said v. R. (p. 189, l. c.) "that the contractility of these corpuscles is of considerable significance in the normal and pathological processes occurring in the connective tissue. As to the latter, direct observation shows that the pus corpuscles resulting from inflammatory irritation can migrate through very large tracts of tissue. It follows that, finding an increase of cells in any part of the tissue in consequence of proliferative processes, we may not at once suppose them to have originated at that precise spot. In ordinary suppuration, the pus corpuscles assuredly find their way to the free surface of the ulcer, and into the interior of the large canals and cavities of the body, in part at least, by means of the above contractile movements. But especially are their movements and their very considerable migrations . . . probably very influential in the so-called organization of fibrinous exudations, of blood extravasations and of thrombi."

In these words v. R. foreshadowed the later observations to which we wish to advert. In the organization of thrombi, the important part of organizer had already been assigned to the leucocytes by VIRCHOW, who believed that the white blood corpuscles enclosed in the clot of a tied vessel organized to form the elements of connective tissue. O. WEBER, BILLROTH and others accepted this position, confirmed by observations of their own. "I confess," says BILLROTH,\* "that I formerly myself strenuously objected to the assumption that the blood could of itself organize into connective tissue with vessels; but after the examination of transverse sections of thrombosed arteries I have become convinced of it. . . . Whence do these new-formed cells come? I doubt not but that they arise from the white blood corpuscles. . . . Moreover, that these cells carry with them the faculty of further development is obvious, from the fact that their nuclei, while the cells are in the blood current, divide, for we frequently find white blood cells with two, three, or four nuclei." Finally LEE and

\* Allg. chirurg. Pathologie u. Therapie. (Lectures on General Surgical Pathology and Therapeutics.) 2d ed. Berlin, 1866. p. 122.

BEALE\* give it as their opinion that the "germinal matter" which initiates the organization of the clot (and of all organizable exudations) is intimately related to the white blood corpuscles.

The latest experiments on the same subject seem to modify the position a little. Dr. N. BUBNOFF† of St. Petersburg, taking the precaution, like some recent observers before him, to spot the white cells of the blood by causing them to "swallow" vermilion, arrived at the following conclusions from four series of multitudinous experiments on the jugular veins of rabbits and dogs:

1. The contractile cells which form outside of the vein, take up the pigment, creep into the wall of the vein, gradually penetrate it, and finally reach the interior of the vein and even the centre of the thrombus.

2. The pigmented cells contained in the circulating blood creep into the thrombus from out of the vasa vasorum; it appears therefore that the white blood corpuscles in the free blood current may take part, to some extent, in the organization of the thrombus.

3. The colorless blood corpuscles of the clot lose their power of locomotion and do not take part in the cell-formation of the organizing tissue.

4. Cells which enter the vein from outside participate extensively in the organization of the thrombus. It is probable, then, that in the organizing process the chief mass of the cells is furnished by the layers of the vascular wall and the surrounding tissue.

(The author adds that Prof. BILLROTH has accepted this proposition, as may be seen from the last edition of his *Gen. Surg. Pathology*.)

This experimenter, therefore, seems to have satisfied himself that, in this phenomenon also, it is the wandering cells which play the important part of organizers, though he considers most of them as descendents of the connective tissue elements in the vicinity. At the same time he denies that the epithelium of the vessel is at all concerned in the process.

More valuable even than the above is the series of experiments by Dr. E. AUFRECHT,‡ originally instituted with a view to determine the question of the new-formation of striated muscle, but resulting in most surprising revelations concerning the genesis of connective tissue, and the healing of wounds by first intention.

The experiments performed on rabbits and guinea-pigs consisted in the infliction of wounds on the skin of the back, the glutæi and erectores spinæ muscles, as well as penetrating wounds of the abdomen. In wounding the dorsal muscles, the incision through the skin was so made as not to correspond to the incision in the muscle. The number of animals sacrificed was 18 for the first two days, 3 or 4 for each of the following days to

\* On the repair of arteries and veins after injury. *Med.-chir. Transactions*, L. p. 478, 1867.

† Ueber die Organisation des Thrombus. *Virchow's Archiv*, XLIV., p. 462, 1868.

‡ *Virchow's Archiv*, XLIV, p. 180, 1868.



the twentieth, a less number for the alterations taking place up to the fiftieth day. All but one of these wounds healed by first intention.

Five hours after the injury, the severed parts of the dorsal or gluteal muscles were re-united by a translucent mass containing but very few red blood corpuscles, which mostly lay near the cut surfaces of the tissues. The microscope showed this mass to be a uniformly clear substance, with straight or wavy lines mostly in parallel directions. In physical and chemical properties, the mass corresponds exactly to blood-fibrine. This fibrine, however, does not originate in the blood effused into the space of the wound, but makes its appearance only after the hæmorrhage has completely ceased.

Imbedded in the fibrine are cellular elements which, until the 36th or 48th hour, steadily increase in number, and correspond in size and form to the white corpuscles of the blood. The question naturally arose, "in view of the certain—(because obtained on the basis of the most exact method)—observations of COHNHEIM on the passage of white blood corpuscles out of the vessels of inflamed parts," if white blood cells had not in this case escaped from the vessels. The experiment of feeding with pigment by injection of vermilion or aniline blue was accordingly tried in frogs whose gastrocnemii had been cut subcutaneously, and after eight hours the operator found pigmented cells in the wound; so that it was safe to assume, that white blood corpuscles, which leave the vessels after the hæmorrhage has ceased, help to constitute the contents of the wound.

This is not the only evidence, however, of the origin of these elements from the blood vessels, of their identity with white blood corpuscles; it can be proved by the exclusion of all participation of the connective tissue cells. The connective tissue fibres on the borders of wounds are found in the first days intact, the cells unaltered in form, and in the same regular disposition as normally.

The first phenomenon observed in such wounds, then, is the appearance of fibrine and white blood corpuscles. At first the fibrine predominates; gradually, the leucocytes immigrate into it, and after 48 hours already far exceed the fibrine in bulk. All subsequent changes visible in wounds concern the leucocytes; at the same time the author is unable to disprove farther participation of the connective tissue cells, because they can now no longer be seen, being concealed by the constantly increasing number of the white blood cells.

About 36 or 48 hours after the infliction of the muscular wound, there are found among the leucocytes roundish cells, each with a broad margin of protoplasm and light round nucleus without nucleolus, which up to the 4th or 5th day continue to increase in number, and almost completely replace the leucocytes. In size they exceed the latter considerably, their nuclei being almost equal to these. Between them is found a wholly amorphous, clear substance in which they are imbedded.

Later, about the 6th day of a muscular wound, the round cells are seen but sparingly; their places are filled by spindle-shaped cells, lying together in close rows, and increasing in size up to the 9th day. The nuclei also have changed their form, having become elongated.

Between them are narrow stripes of an inter-cellular substance which corresponds, in its relations with the cells, to the fibrine previously seen, as well as to the inter-cellular substance of the mature connective tissue.

The question now arises: do the spindle-shaped cells originate, by the transitional shape of round cells, from the white blood corpuscles? and do the latter accomplish, as in the organization of the vascular thrombus, the new formation of connective tissue? The author answers that the white blood corpuscles are the only cellular elements in the "contents of the wound;" surely it is not plausible that they should travel back again and be replaced by entirely different new-comers.

The occurrence of spindle-shaped cells in wounds is a long known fact. PAGET asserted two modes of healing by first intention, one by means of cells, the other by means of free nuclei. But free nuclei, the author thinks he can state with certainty, never do occur. The same holds good of other objects illustrating the new-formation of connective tissue, as pleuritic and peritonitic exudations: the formation of connective tissue takes place only by means of cells.

The very valuable paper of part of which we have here given a brief résumé, continues to follow up the process of healing by the first intention, discusses the genesis of connective tissue in the light of former experiences and theories, and finally turns to the new-formation of muscular fibres. But our first interest in the paper was directed to the support it gives to the discoveries of COHNHEIM, and the functions and fate of the leucocytes; and the length of our present article forbids our following the author in his farther disclosures on the healing process, to which we may revert on a future occasion.

In view of all these facts, presented to us by competent observers, and partly verified by other most reliable authorities,\* we see no reason to disbelieve that, under certain circumstances, the white corpuscles of the blood can escape from the blood vessels, migrate through the tissues, and, on the one hand, perish as pus corpuscles, or, finding their way into "coagulable lymph," organize into elements of the connective tissue type, and substitute living and vascular tissue for the fibrine thrown out in wounds or serous sacs;—that the cellular elements of pus and mucus, and the migratory cells of healthy areolar tissue, have all, at one time, probably been circulating in the blood or lymph as "leucocytes."

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\*Among others, we may name Dr. BASTIAN.

## MEDICAL BIBLIOGRAPHY.

The experiment of introducing the institution of "Hospital Reports" in this country, which was begun last year by the PENNSYLVANIA HOSPITAL in Philadelphia, has met with success, the second volume of its Reports having just been published. The Reports of the BELLEVUE and CHARITY HOSPITALS of New York, though announced over a year ago, have not yet made their appearance; but the first volume is now promised to be out on Feb. 15th. (We have not heard from it.)

Prof. CARSON has written a History of the Medical Department of the University of Pennsylvania.

Prof. HARTSHORNE, of the same school, has condensed "the indispensable elements of a course of medical study" into a Conspectus of the Medical Sciences, 1002 pp., large royal 12mo.; in the interest of the author we hope that the conspectus may escape the odium attaching to the "compend" of Neill and Smith, of which it will be the successor.

*Anatomy and Physiology.*—We note the advertisement of a large illustrated work on the anatomy (?) of the nervous system: ROUDANOWSKI, *Etudes photographiques sur le système nerveux*, 8vo., atlas and fotogr. plates in folio, published by Adr. Delahaye at 250 francs. A monograph by Prof. LUSCHKA on the anatomy of the pharynx—*Der Schlundkopf des Menschen*—pp. 239 gr. 4to., Tübingen, with 12 pl., will be of especial importance at this time, when the studies of laryngoscopy and rhinoscopy demand more than the hitherto common amount of knowledge of the naso- and laryngo-pharyngeal spaces. Prof. DURSÝ's Contributions to the Development of the Head in Man and the Higher Mammals, 8vo., Tübingen, is of interest to the comparative anatomist and embryologist.

The London *Medical Times and Gazette* now publishes the lectures which Dr. BEALE is delivering this winter on germinal matter, and on the anatomical element, or cell; we presume they will afterwards be printed separately.

A treatise on the Anatomy of the Skin, by Drs. BIESIADECKI and KOCH, is announced as in press, Braumüller, Vienna.

*Patholog. Anatomy.*—KÖSTER, *die Entwicklung der Carcinome und Sarcome*; part 1, containing epithelial cancer and alveolar colloid cancer of the stomach, 108 pp., 8vo., with four plates, Würzburg. KLOB's work on the path. anatomy of the uterus has been noticed in this number of the Journal. Prof. HOFFMANN, of Basle, is preparing for early publication his "Investigations on the Path.-Anat. Changes in Typhus" (typhoid?), with 9 plates. A work on "Post-mortem Examinations, for the use of Coroners and others," is announced by Wm. Wood & Co.

*Practice of Medicine.*—Since our article in the November number, the literature of medical practice has received large additions; the second volume of the new Amer. edition of AITKEN has appeared, and FLINT's work has reached a third edition, HARTSHORNE's Essentials a second. Mr. James Walton, London, is "preparing" a Handbook of the Principles

and Practice of Medicine, by Dr. ANDREW, Physician to St. Bartholomew's. 1 vol., small 8vo.

Prof. ELLIOT, of New York, is writing a work on the Hygiene of Infancy and the Diseases of Children, soon to be issued by Appleton & Co., N. Y.—Dr. EUSTACE SMITH's book on the Wasting Diseases of Children, is being reproduced by Mr. Lea in the *Medical News and Library*.

HUDSON's Lectures on the Study of Fever has been reviewed at some length in the present number of the Journal.

In psychological medicine we observe: DESPINE, *Psychologie naturelle*, a study on the intellectual and moral faculties, normally and in their manifestations in the insane and in criminals, 3 vols., 8vo., Montpellier;—LUNIER, *Etudes sur les maladies mentales et les asiles d'aliénés. De l'aliénation mentale et du crétinisme en Suisse*, 270 pp., 8vo., Savy, Paris. Also the announcement, by Messrs. D. Appleton & Co., N. Y., of a work by Prof. HAMMOND on the Diseases of the Mind and Nervous System. A second *thèse* by Dr. GRENIER (whose first dissertation on free will called forth the storm against the so-called "materialists" of the Paris medical schools), entitled "On the Senile Softening of the Brain," is dedicated to Monseigneur Dupanloup, Bishop of Orléans. Dr. DURAND wrote "On hæmorrhisms of the Brain, considered chiefly in their relations with cerebral hæmorrhage," 129 pp., 8vo., Adr. Delahaye, Paris.

In Paris appeared, P. Asselin, LASEGUE, *Traité des Angines*, 8vo. GREENHOW, On Chronic Bronchitis, etc., Churchill, London, has been introduced in America by Messrs. Lindsay & Blakiston (see p. 132 of this No.). Dr. WILLIAMS' articles on Pulmonary Consumption, which first appeared in the London Lancet, are to be published by Messrs. Appleton & Co., edited by Dr. CLYMER of New York.

A volume of rather large size (630 pp.) has been written in France on the subject of dyspepsia: WILLIÈME, *Des dyspepsies dites essentielles. etc.*, Adr. Delahaye. The same firm issued a "clinical study on the multi-locular hydatid tumor of the liver and lungs," by Dr. DUCELLIER.

Messrs. Lindsay & Blakiston, of Philad., are the agents for Dr. LIONEL BEALE's exhaustive illustrated work on Kidney Diseases, 3d edition.

We have to record quite a number of novelties in Dermatology. Among our bibliographical notices the reader will find that of a new German quarterly on this speciality, the *Archiv für Dermatologie und Syphilis*. Almost simultaneously a new French periodical for the same sciences has made its appearance; it is entitled *Annales de Dermatologie et de Syphiligraphie*, and conducted by M. le Dr. DOYON. A new textbook on skin diseases is in process of publication in Vienna, Braumüller: NEUMANN, *Lehrbuch der Hautkrankheiten*. Dr. THLBURY FOX's little manual on skin diseases has reached a second edition. Dr. DAMON is adding to his former monograph on Neuroses of the Skin, a second one on the "Structural Lesions of the Skin," now in the press of Messrs. Lippincott & Co., Philad. BAZIN's Lectures on Gouty and Dartrous (eczematous) Affections of the Skin is out in a second edition. HARDY's Lectures on Dartrous Diseases in a third edition. "*Considérations sur le traitement des teignes*," by M. MAHON, *jeune*, 92 pp., 8vo., was issued last fall by Baillière et fils, Paris.

The French bulletins also announce: PITON, *Etude sur le rhumatisme*; and RÉZARD DE WOUVES, *Du choléra. Preuves de sa non-contagion. Nature, cause, et symptômes, etc.* The first part of a German essay: BERGMANN, "On Putrid Poison and Putrid Intoxication," Dorpat. Gläser, is before the public.

*Surgery.*—Prof. SÉDILLOT has this year presented the profession with two volumes. 700 pp each, of "Contributions to Surgery" on numerous important topics, such as infection as the chief cause of mortality after operations, anæsthesia, dislocations, hæmostatics, amputations, resections. etc. Similar in scope and import are the surgical contributions of Dr. LEJEAL, of Valenciennes, who publishes under the title *Mélanges de clinique*, the notes of his hospital practice.

PITHA and BILLROTH's *Handbuch der Chirurgie* is progressing rapidly: the last part issued, according to our advices, is Bd. IV., Abth. 1., 2. Heft (v. PITHA, Diseases of the Upper and Lower Extremities, 388 pp.).—The first part of the first volume of a new French "Elementary Treatise on Surgery," by Prof. FANO, 463 pages, 8vo., has appeared in Paris, Adr. Delahaye. Dr. RAVOTH, known by his clinical treatise on fractures and dislocations, is the author of a new textbook on Surgical Instruments, 16 plates with descriptive text, Leipzig, Veit & Co.

Prof. PAUL BROCA's Treatise on Tumors has just been completed (2d vol.), Asselin, Paris. A Treatise on the Diagnosis of Tumors, by Prof. DESPRÉS, the Surgeon to the Lourcine Hospital, has been issued by Adr. Delahaye.

The work by BÖHM, on the Treatment of Fractures, of which a part has just been published at Vienna, is likely to become a very extensive one, the first (general) part already amounting to 470 pp. large 8vo. An address by LANGENBECK on Gunshot Fractures of Joints and their Treatment, Berlin, 8vo., pp. 53, is receiving favorable comments from the German medical press.

Messrs. Appleton & Co. announce that they have in press, and will shortly issue, A Practical Manual on the Treatment of Club-Foot, by Prof. SAYRE, of Bellevue Hosp. Med. College.

The Wounds of the Heart and Pericardium are the subject of an extensive monograph by Dr. FISCHER, of Berlin, now Professor of Surgery at Breslau,—Berlin, 345 pp. 8vo. Among French announcements we note: GIRARD, "On Kelotomy without Reduction, a new method of operating for strangulated hernia," Baillière et fils, 276 pp. 8vo. FRÉDAULT, On Hæmorrhoids, 8vo., same firm. CIVIALE, Collection of Urinary Calculi and Surgical Instruments, Rothschild, 8vo. Sir HENRY THOMPSON'S Lectures on Diseases of the Urinary Organs, as reprinted by Lea, have been noticed elsewhere in this number.

Among our bibliographical notices will be found an account of Dr. COHEN'S (2d) edition of MACKENZIE'S work on the laryngoscope. Prof. DONALDSON, of the Univ. of Maryland, is also preparing a Manual of Laryngoscopy and Rhinoscopy, to be issued by Kelly, Piet & Co., Baltim. The aged Prof. v. BRUNS, of Tübingen, has published 23 new observations of Laryngeal Polypi, 164 pp. 8vo., with four chromolith. plates. This

work and his previous one on laryngeal surgery have gained for him the large Italian prize of 20,000 lire offered by Prof. RIBERI.

Two new works on syphilis have made their appearance: "BERKELEY HILL, Syphilis and Local Contagious Disorders," 500 pp. 8vo., Walton, London, and "BARTON, The Pathology and Treatment of Syphilis, Chancroid Ulcers, and their Complications," 306 pp. 8vo., Fannin & Co., Dublin. The former volume has been reprinted by Mr. H. C. Lea, Philad.

Prof. STELLWAG VON CARION, the American translation of whose standard work on Ophthalmology has already reached its second edition, not long ago published a small essay on "Intraocular Pressure and on the Innervation of the Iris," 107 pp. 8vo., Vienna. Dr. KNAPP, late Prof. of Ophthalm. at Heidelberg, now of New York, and Prof. MOOS, the aural surgeon of Heidelberg, are announced as the editors of a new journal, the *Archives of Ophthalmology and Otology*, to be published simultaneously in English and German, the former at New York (Wm. Wood & Co.), the German at Carlsruhe. It is to be issued in semi-annual parts of about 300 8vo. pp. each, fully illustrated,—the first number to appear in May. A second American edition (by ROOSA) of v. TRÖLTSCHE's work on Diseases of the Ear, Wood & Co., N. Y., will be noticed in our next number.

An Atlas of the Pathology of the Teeth, by Profs. HEIDER and WEDL, of Vienna, is in course of publication, and promises to be a work of value, Dr. HEITZMANN being named as the artist (our readers remember that Dr. H. is the creator of HEBRA's beautiful plates illustrating skin disease); it will embrace four numbers, the first of which contains 4 plates and 16 pp. folio, and was issued last autumn.

*Obstetrics*.—The firm of Ferd. Enke, Erlangen, issued a new "Treatise on Midwifery," by Prof. W. LANGE, embracing also the forensic part of the science. Prof. WINCKEL, of Rostock, is receiving much praise for his "Clinical Contributions to the Pathology of labor," 276 pp. 8vo., Rostock. Among the most recent announcements of Messrs. Appleton & Co. is, "BARNES, Obstetric Operations, with notes and additions by DAWSON."

TILT's Handbook of Uterine Therapeutics, 2d edition, has been issued by the same firm, and is reviewed at length in this number of the Journal; a new edition of the same author's Diseases of Menstruation and Ovarian Inflammation is also announced by Messrs. Wm. Wood & Co. A large illustrated work on Ovariectomy, by DE KRASSOWSKI, has been published at Paris, V. Masson et fils. We observe also: AMANN, On the Influence of the Diseases of the Female Sexual Organs on the Nervous System, with especial reference to the nature and phenomena of Hysteria, F. Enke, Erlangen.

*Materia Medica and Therapeutics*.—We observe among the French advertisements two physiological studies, one by LOLLIIOT, On Arsenic, the other by CASAUBON, On Coniine ("Conicine"), both published by P. Asselin.

LIEBERMEISTER and HAGENBACH's "Observations and Experiments on

the Use of Cold Water in Febrile Diseases," 176 pp. 8vo., Leipsig, is a work well received by the critics.

Electro-therapy is still making additions to our literature. Fannin & Co., Dublin, announce: POWELL, "The Practice of Medical Electricity," etc., with rules for the treatment of nervous diseases, especially paralysis and neuralgia. Prof. HAMMOND is preparing a translation of MORITZ MEYER's "Electricity in its Relations to Practical Medicine," from the third German edition, to be issued by the Appletons in a volume of over 400 pp. 8vo.

*Hygiene*.—A large treatise on this science has appeared in Paris: MOTARD, *Traité d'hygiène générale*, 1700 pp. 8vo., Bailliére et fils. LE ROY, *Anémie des grandes villes et des gens du monde (cachexie urbaine)* Masson et fils, Paris, promises to be an interesting study on an important theme in hygiene and social science. Another subject of interest is discussed in a small memoir by EIGENBROD, on the cleaning of cities to prevent the increasing impurity of the soil in our habitations, as the most important problem of sanitary police, 92 pp. 8vo., Darmstadt.

*Forensic Medicine*.—A reviewer in the *Med. Presse* says of a recent work by V. FABRICE, on Abortion and Infanticide, 441 pp. 8vo., Erlangen, that it contains nothing not known before, but does say *all that is known* on the subject.

COFFEINE IN POISONING BY MORPHINE.—Dr. H. A. LENNEKER, of Jefferson City, has favored us with the briefest original communication we have ever received. We regret that he chose to carry brevity to a point where it has ceased to be the soul of wit, for the subject is new and important, and the case reported would have been of the greatest interest if the details had been properly related:

*Jefferson City, Mo., Jan. 26, 1868.*

A few weeks ago I had a case of poisoning with sulphate of morphia. The person was in a dangerous condition. I injected a grain of pure coffeine with the hypodermic syringe, and after I had injected three grains in ten minutes, the person recovered quickly.

Respectfully,

H. A. LENNEKER.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—A number of physicians at Boston, "desirous of advancing the study and treatment of the Diseases of Women," have recently founded a Gynæcological Society, of which WINSLOW LEWIS is President, HORATIO R. STORER Secretary, and GEORGE H. BIXBY (late of St. Louis) Treasurer. The code of ethics of the American Medical Association is recognized as binding upon its members, by a separate article of the constitution. A by-law limits the number of members to twenty-four.

*AMERICAN MEDICAL ASSOCIATION.*

The Twentieth Annual Session will be held in New Orleans, La., May 4, 1899, at 11 A. M.

The following Committees are expected to report :—

- On Diseases of the Cornea, Dr. Joseph S. Hildreth, Illinois, Chairman.
- On Cultivation of the Cinchona Tree, Dr. Lemuel J. Deal, Penn., Ch'm.
- On Excision of Joints for Injuries, Dr. J. B. Reed, Georgia, Chairman.
- On Alcohol and its Relations to Medicine, Dr. John Bell, Penn., Ch'm.
- On the Cryptogamic Origin of Disease with special reference to recent microscopic investigations on that subject, Dr. E. Curtis, U. S. A., Ch'm.
- On Operations for Hare-lip, Dr. A. Hammer, Missouri, Chairman.
- On Clinical Thermometry in Diphtheria, Dr. J. G. Richardson, N.Y., Ch'm.
- On Prophylactics in Zymotic Diseases, Dr. Nelson L. North, N. Y., Ch'm.
- On Inebriate Asylums, Dr. C. H. Nichols, D. C., Chairman.
- On the Influence of the Pneumogastric Nerve on Spasmodic and Rhythmical Movements of the Lungs, Dr. Thomas Antisell, D. C., Chairman.
- To Examine into the Present Plan of Organization and Management of the United States Marine Hospitals, Dr. D. W. Bliss, D. C., Chairman.
- On the Utilization of Sewerage, Dr. Stephen Smith, N. Y., Chairman.
- On the Influence of Quarantine in Preventing the Introduction of Disease into the Ports of the United States, Dr. Elisha Harris, N. Y., Chairman.
- On Nurse Training Institutions, Dr. Samuel D. Gross, Penn., Chairman.
- On Commissioners to aid in Trials involving Scientific Testimony, Dr. John Ordronaux, New York, Chairman.
- On Annual Medical Register, Dr. John H. Packard, Penn., Chairman.
- On Devising a Plan for the Relief of Widows and Orphans of Medical Men, Dr. John H. Griscom, New York, Chairman.
- On Veterinary Colleges, Dr. Thomas Antisell, D. C., Chairman.
- On Specialties in Medicine, and the Propriety of Specialists Advertising, Dr. E. Howard, Maryland, Chairman.
- On Library of American Medical Works, Dr. J. M. Toner, D. C., Ch'm.
- On Vaccination, Dr. Henry A. Martin, Massachusetts, Chairman.
- On the Decomposition of Urea in Uræmic Poisoning, Dr. H. R. Noel, Maryland, Chairman.
- On the Best Method of Treatment for the Different Forms of Cleft Palate, Dr. J. R. Whitehead, New York, Chairman.
- On Rank of Medical Men in the Navy, Dr. N. S. Davis, Ill., Chairman.
- On Medical Ethics, Dr. D. Francis Condie, Pennsylvania, Chairman.
- On American Medical Necrology, Dr. C. C. Cox, Maryland, Chairman.
- On Medical Education, Dr. J. C. Reeve, Ohio, Chairman.
- On Medical Literature, Dr. E. Warren, Maryland, Chairman.
- On Prize Essays, Dr. S. M. Bemiss, Louisiana, Chairman.
- On the Climatology and Epidemics of the several States.

(One Member for each State.)

Secretaries of all medical organizations are requested to forward lists of their Delegates as soon as elected, to the Permanent Secretary.

Any respectable physician who may desire to attend, but can not do so as a delegate, may be made a member by invitation, upon the recommendation of the Committee of Arrangements.

WM. B. ATKINSON, M.D.,

Permanent Secretary,

*S. W. Cor. Broad and Pine Streets, Philad.*



METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

TIERMOMETER FAHRENHEIT, 1869.

JANUARY.			FEBRUARY.		
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	33.5	35.5	1	30.5	44.0
2	32.5	43.0	2	37.0	43.0
3	33.5	56.5	3	28.0	34.5
4	43.0	51.0	4	20.5	29.5
5	30.5	45.5	5	18.5	36.0
6	34.5	60.5	6	26.5	36.5
7	40.0	62.0	7	31.0	47.0
8	43.5	55.5	8	32.0	44.0
9	27.5	36.5	9	43.0	50.0
10	24.5	27.0	10	40.0	57.5
11	23.0	31.0	11	37.5	64.5
12	23.0	41.5	12	43.0	70.0
13	29.5	50.5	13	55.0	66.0
14	38.5	45.5	14	42.0	49.5
15	33.0	38.0	15	30.0	37.0
16	26.5	31.5	16	25.5	51.5
17	31.0	36.5	17	39.5	46.5
18	28.0	30.5	18	35.0	55.0
19	23.5	44.5	19	30.0	48.5
20	30.5	45.5	20	34.5	44.0
21	30.5	47.0	21	21.5	30.5
22	30.5	44.5	22	15.0	21.5
23	27.0	47.5	23	7.5	26.5
24	31.5	54.0	24	20.5	32.0
25	29.0	32.5	25	23.5	47.5
26	24.5	39.5	26	20.0	27.5
27	33.5	47.5	27	8.0	22.0
28	34.0	59.5	28	10.5	33.5
29	31.0	51.0			
30	26.0	33.5			
31	23.0	40.0			
Means....	30.6	43.7	Means....	28.8	42.8
Monthly Mean...	37.2		Monthly Mean...	35.8	

**REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.**

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

*1.—Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 9 years.	No. of Thunder Storms.	Prevailing Winds.
1869.	Jan.	8.2	11.5	8.7	6.7	9.7	7.2	8.7	10.0	0	SE., SW.
1869.	Feb.	3.5	4.0	1.7	1.4	2.5	1.8	2.5	10.0	0	NW., NW.

*2.—Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	January.	34.3	36.4	42.5	44.6	41.0	37.9	39.4
1869.	February.	31.9	33.9	39.2	43.3	37.3	35.8	36.9

*3.—Monthly Mean of Relative Humidity.*

1869.	January.	87.6	80.2	69.3	66.7	73.9	78.9	76.1
1869.	February.	89.3	78.8	68.4	65.6	74.2	80.4	76.1

The month of January was distinguished for its mildness. Its mean temperature, 37.2, is about 5 degrees higher than its average mean, 32.4. There was neither severe frost nor a snow fall, while some unusual snow storms occurred further South, affording the people there the rare, though short, pleasure of sleigh-riding and snow-balling in orange groves. The quantity of rain in the month was 2.02, approaching the average mean, 2.14. The mild weather in January unfortunately started vegetation; grass plots looked green, shrubs were budding; maple and redbud commenced blossoming.

The rougher month of February checked that untimely vegetation; February was cold at first, milder in the middle, and decidedly cold towards the end. Its mean temperature, 35.8, approaches the average mean, 35.3. The quantity of rain and snow is 2.49, the average 2.66. High wind, mostly N. W., prevailed; snow-fall with us was moderate (only 0.29), but all over the country extensive snow-storms prevailed, obstructing railroads and travel. The Union Pacific between Omaha and Cheyenne seems to have been obstructed for two weeks. In Cheyenne, on the morning of the 22d, the thermometer showed 18° below zero; 24 hours afterwards, on the morning of the 23d, we had here in St. Louis the coldest temperature of the month, to-wit: 7°5. The wind-wave appears to have moved from southwest to the east, and needed about a day to travel from the Rocky Mountains to St. Louis.

THE SAINT LOUIS

# Medical and Surgical Journal.

MAY 10, 1869.

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## Original Communications.

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*CASES ILLUSTRATIVE OF SOME OF THE CHARACTER-  
ISTIC PHENOMENA ATTENDANT UPON CERTAIN  
REFRACTIVE ANOMALIES OF THE EYE.\**

By JOHN GREEN, M.D., St. Louis.

CASE 2. *Case of deficient refractive power (hypermetropia), of equal degree in the two eyes, complicated with a moderate degree of astigmatism in both eyes.*

Mrs. T., 40 years old, has suffered for fifteen or twenty years from failing sight, at first for short distances (reading and sewing), latterly for long distances also. Her eyes were "never very strong," she could never read long without a sense of weariness and pain in and above the eyes, and for a year or two past, she has been unable to read more than two or three minutes at a time, and even that with the greatest difficulty. By a great effort she can read *small pica* (the type in which this page is printed) for a few minutes, but she very soon complains of great fatigue, and the letters become so blurred and confused as to be

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\*Continued from our last number.

wholly illegible. After resting a little while, she can again read for a few moments, but not so long as at first, and she is soon compelled to desist altogether from the attempt. In both near and distant vision she has formed the habit of nearly closing the eyes and looking through the narrow slit formed by the half-shut lids; in this way she is able to see better than with the eyes wide open. She has never worn glasses, having found that near-sighted (concave) glasses do not help her, and thinking that her trouble can not be old sight, inasmuch as it began when she was not more than twenty years old. Latterly, however, she has tried such glasses as were supposed to be suited to her age (weak convex glasses of 36 inches focus), but without perceiving that they afforded her any material assistance.

The symptoms which have been described pointed clearly to deficient refractive power (hypermetropia) as the principal cause of the disability. Accordingly the eyes were tested *in distant vision* with convex glasses, with the following result: Weak convex glasses (of 36 inches focus) gave a sense of ease, and made vision clearer. Stronger glasses (of 20 inches focus) improved vision still farther, and were more comfortable to wear than the weaker number. With glasses of eight (8) inches focus vision was still good, but with stronger glasses it was less perfect. The deficiency in refractive power was equal then to a glass of eight (8) inches focus, or, in other words, *hypermetropia* (H.)=1-8.

A farther examination revealed a difference in refractive power in different directions, equal in one eye to a glass of thirty (30) inches focus, and in the other of twenty-four (24) inches; in other words, *astigmatism* (Ah.)=1-30 in the right eye and 1-24 in the left eye. The farther correction of this anomaly raised the acuteness of vision to the normal standard for long distances.

On trying the eyes now in reading, it was found that the finest (*brilliant\**) type could be read easily at ten or twelve

\* An exceptionally minute type, smaller than this in the proportion of about six to seven (6-7.)

inches from the eye; a newspaper was read fluently and without fatigue.

With a pair of suitable spherico-cylindrical glasses vision is now perfect at all distances; a somewhat stronger pair will, however, be needed before long for reading, as the age for the manifestation of presbyopia is close at hand.

*CASE 3. Case of deficient refractive power (hypermetropia) of equal degree in both eyes, with diminished acuteness of vision in the left eye.*

Mrs. S., 37 years old, has for many years believed that she was becoming blind. Ten or twelve years ago, she discovered that convex glasses helped her in reading and sewing, and she accordingly began to use them. After a few months, however, she found that she needed stronger glasses, and procured them. Again, in a few months, she was compelled to change her glasses for stronger, and finding that she could see at a distance also as well, or even better, with the glasses than without them, she fell into the habit of wearing them constantly. A few months later, she found herself again in need of farther help, and again applied to the optician for still stronger glasses. This time the optician expressed surprise at the strength of the glasses which she was wearing, and warned her against changing them for stronger, on the ground "that she would soon outgrow all glasses, and would then become irremediably blind." She then consulted a physician, who confirmed the fears which had been awakened by the optician, and told her that she had committed a great error in commencing to wear glasses, and that she must, on no account, increase their strength, but try, if possible, to get along without them. By this time, however, vision with the naked eye had become imperfect, for long as well as short distances, and it was found impossible to do without the glasses. After this, she continued for years to wear the same pair (16 inches focus), seeing very well at a distance,

but unable to use the eyes with any comfort in reading or sewing, and although of decided literary tastes, she gave up reading altogether.

An examination of the eyes, by trial with convex glasses, revealed a deficiency of the refractive power equal to a glass of seven (7) inches focus; in other words, *hypermetropia* (H.)=1-7. The left eye proved also to have *astigmatism* (Ah.)=1-30. Vision was imperfect also in this eye, probably from birth, in the ratio, as expressed by SNELLEN'S method, of 1-3.

Convex glasses of seven (7) inches focus were ordered, to be worn constantly. With them vision is perfect for all distances, and all sense of fatigue in reading, etc., has disappeared. These glasses will not be outgrown for distant vision, but with advancing years somewhat stronger ones will have to be used for reading.

CASE 4. *Case of deficient refraction (hypermetropia) of both eyes, with diminished acuteness of vision in the left eye.*

M., a boy 14 years old, has had great trouble in doing his work at school. He sees pretty well at a distance, but has acquired the habit of holding his head down and looking out from under his upper eye-lids, thereby covering the greater part of the pupil. With the eyes wide open he does not see nearly so well. In reading, on the other hand, he inclines the head backward and holds the book much below the level of his face, at the same time nearly closing the eye-lids, so as to look through a narrow slit. In this way he can read *small pica*, or even *bourgeois*\* type, at a distance of eight inches, but he soon becomes fatigued and the eyes ache. He is slow and blundering in his studies from books, and has been thought to be heedless and indifferent. He is, nevertheless, a boy of quick apprehension and intelligent.

An examination of the eyes revealed deficient refractive

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\*Bourgeois.

power, represented by a glass of eight (8) inches focus : *hypermetropia* (Hm.)=1-8. The left eye presented the same degree of hypermetropia, but with deficient acuteness of vision, in the ratio 1-4½.

With convex glasses of eight inches focus, vision was perfect at long distances ; at the same time that the finest type, *brilliant*, could be read fluently at eight inches, and *minion*\* at sixteen inches. The desire to throw the head into unnatural positions was no longer felt, and the clearest vision was attained with the eyes fully opened.

Convex glasses of eight inches focus were ordered, and the boy was directed to return in a month for farther examination. Four weeks later he came again. He had used the spectacles constantly during this period in reading and studying, and had been entirely free from unpleasant feelings until within a few days. During the last week, however, he had felt a little fatigue after long reading.

The refractive condition of the eyes was again examined : with the glasses of eight (8) inches focus vision was still perfect, but it was found to be equally perfect with stronger glasses of six (6) inches focus ; in other words, the degree of hypermetropia had apparently increased from 1-8 to 1-6. This increase was, however, only apparent, and was due to the fact that in hypermetropia in young persons, a part of the refractive defect is always concealed by the powerful efforts at accommodation which they are called upon to make in every act of vision. The diagnosis was therefore changed to *hypermetropia* (Hm.)=1-6.

For the present no change in the glasses was advised, but the boy was directed to report again a few weeks later.

Five weeks after the last consultation he returned, still complaining of a little pain with decided fatigue whenever he used the eyes hard in reading. The hypermetropia appeared to be a little greater than when last examined, for he could now see distinctly at a distance through convex

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\*Minion.

glasses of five and two-thirds ( $5\frac{2}{3}$ ) inches focus; in other words, *hypermetropia* ( $Hm$ ) =  $1.5\frac{1}{3}$ .

The spectacles were changed from eight (8) inches to six (6) inches focus, with the expectation that they would suffice for all purposes, as it was evident that there was very little hypermetropia still remaining latent. These glasses have been used constantly for more than a year; vision is perfect, and there has been no sign of any return of the fatigue or pain after reading.

At present M. can still see tolerably well *at a distance* without glasses, but much better with them. This state of things will, however, not continue very long: without the aid of convex glasses distant vision will fail appreciably year by year, until the necessity is felt for wearing them constantly. For this purpose the same glasses which are used for reading will answer perfectly, and he will need but one pair of glasses for many years to come. Thirty years hence, when presbyopia comes on, he will need two pairs of glasses, one, of about six (6) inches focus, for distant vision, and a stronger pair for reading.

The foregoing cases illustrate some of the more common types of disability dependent upon deficient refractive power in the eyes. The eyes are generally said to be "weak," that is, they become easily tired with use, especially in reading. As age advances they are thought to be rapidly "wearing out," and if they have been used much in reading or sewing, and, especially, if any use has been made of convex glasses, it is said that they have been worn out by hard usage, or through the abuse of spectacles.

Upon the whole subject of the uses and abuses of spectacles the greatest confusion still exists in the minds not only of the non-professional public, but also of opticians, medical practitioners, and sometimes even of men who have earned a high reputation as ophthalmic surgeons. Nor do the common hand-books of ophthalmic science help the matter, for of the general treatises it is only in the very latest that



the subject is handled with any approach to completeness or even correctness.\*

The popular impression, which is shared by most opticians and by nearly all even of the more intelligent physicians, is that convex glasses are suited to but one condition of the eye—viz., the failing vision of old people for short distances. It is well known that elderly persons generally begin with weak glasses and gradually progress to stronger, and from this fact the inference is drawn that every age has its appropriate kind of spectacles. If, as often happens, a very old person is able to read without glasses, it is assumed that he has exceptionally strong eyes, and that their strength is in a great measure due to the fact that he has resisted the temptation to use glasses at the usual age, whereas the truth is that he has become, or more probably has always been, near sighted, and so has never needed glasses at all in near vision. So, on the other hand, if a young person discovers that he needs convex glasses to enable him to read with comfort, he is at once warned against the supposed danger of "spoiling his eyes," and is referred, perhaps, to the near-sighted octogenarian who rejoices in being able to read with unaided eyes, forgetful of the fact that he can not see clearly at long distances.

The idea of a young person wearing convex glasses, and especially glasses "strong enough for his grandfather," is so incomprehensible to most people, as to lead them either to dispute the fact altogether, or else to imagine all sorts of evils as sure to follow such a violation of the established order of nature.

The investigations of modern ophthalmologists have demonstrated that such fears are groundless.

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\* Donders, Stellwag, H. W. Williams, Bader, and Soelberg Wells in English; Wecker, and Giraud-Teulon in French; Donders and Stellwag in German. The old and well known general treatises of Mackenzie, Lawrence, Wharton Jones, and even Dixon, in English; and of Sichel and Desmarres, in French, either treat the subject in a wholly inadequate manner or mislead the reader by inaccurate teachings.

Deficient refractive power of the eye (Hypermetropia) is now recognized as one of the common *defects of structure*. It is congenital, and is considered as an arrest of development of the eye-ball which is smaller, or rather shorter, than normal, being somewhat flattened or orange-shaped rather than spherical. Such an eye, when in a state of rest, refracts parallel rays toward a point behind the plane of the retina, so that distinct vision is possible only by the same active muscular effort which the normal eye exerts in looking at near objects. In childhood the capacity for this accommodative adjustment is very great, so that it may suffice for distinct vision even at very short ranges, but as age advances the accommodative faculty becomes restricted, and the eyes begin to suffer from fatigue, first in near vision, afterwards at long distances also. Thus the eyes are said to become "weak" and present the symptoms of disease, when there is really no disease, but only a *deviation from the normal form* of the organ.

The correction of hypermetropia by sufficient convex glasses brings the eyes into the normal condition for vision, both at a distance and for near objects. A hypermetropic person wearing convex glasses sees equally well at all distances, and generally forms the habit of wearing his glasses constantly. With proper glasses, his eyes are strong and his vision normally acute. Having once accurately measured and corrected the refractive defect, no farther change is indicated until the usual age for the development of presbyopia. When this appears, stronger glasses must be used for reading, and then the same phenomenon will be observed as in the case of other presbyopes, viz., that the glasses which are required for reading are not suited to distinct vision at a distance. Two pairs of glasses are then required, the old number for distant vision and a stronger pair for reading.

The important points to be understood in connection with hypermetropia are :

1st—That it is a *congenital anomaly of form, unfitting*

*the eye for vision except under the disadvantage of excessive accommodative effort.*

2dly—That its proper and only treatment is by *carefully selected convex glasses, which supply the deficient refractive power and make vision easy at all distances.*

From these two propositions, it follows that *the conditions which call for the use of convex glasses are not peculiar to old people, but that children may sometimes require them of even greater strength than are ordinarily worn by the aged.*

*No danger is to be apprehended from the use of convex glasses of sufficient strength to supply the refractive defect, however strong they may seem in comparison with those used by other persons in other conditions of the eyes.\**

The diagnosis of hypermetropia is one of the simplest problems in ophthalmology, and is within the reach of every optician or practitioner of medicine. The single point to be settled is *whether the person can see at long distances as distinctly through convex glasses as without them.* This test may be applied by the aid of a pair of common convex spectacles of low power, noting carefully whether distant objects are seen as clearly through them as with the naked eye. If the weak glasses do not interfere with the distinctness of distant vision, stronger glasses should be tried in succession, until a pair is selected through which distant objects begin to look blurred or indistinct. The strongest convex glasses compatible with clear vision at a distance give the measure of that part of the refractive defect which is not concealed or kept latent by unconscious accommodative efforts. If these glasses are worn for a few weeks an additional degree of hypermetropia will become manifest, and it will be found that somewhat stronger glasses can be worn without impairment of distant vision. A few months generally suffice to bring to light the *total*

\*This is the opposite of the fact concerning the use of *concave* glasses by short-sighted persons: great and irreparable injury may follow the choice of too strong glasses in myopia.

*hypermetropia*, and after that no farther increase, either real or apparent, of the refractive defect is to be feared. Only, it must be borne in mind that if the person is old enough to be presbyopic, he may need still stronger glasses for reading, and the strength of these may have to be increased from time to time as in the case of elderly persons generally.

617 LOCUST STREET, April 1st, 1869.

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CASE OF ACUTE SOFTENING FROM PROBABLE OBSTRUCTION OF CEREBRAL ARTERIES.

By P. GERVAIS ROBINSON, M.D., Prof. of Clinical Medicine, Special Pathology and Physical Diagnosis, Missouri Med. College.

MR. EDITOR :—The following case may be of sufficient interest and instruction to merit a place in your columns. I therefore hand you the notes made a few days after its termination. It is much to be regretted that a post mortem examination could not be obtained, and so a certainty have been established as regards the morbid state of the brain ; yet the character of the phenomena developed, and their relations during the progress of the case, present points of more than ordinary interest, and are worthy of record and study.

First saw Capt. McB. about the 25th of February, in consultation with Dr. BOISLINIERE. History as follows : A book keeper by occupation ; had been much occupied of late, sitting up and writing till late in the night ; complained for some weeks of pain in the head, not referred to any particular locality. On examination at this date we found that he still complained of headache, but *more particularly* of a very severe pain in the left thigh, extending from the groin to the knee ; the slightest touch appeared to produce the most excruciating agony, but by manipulation it was soon discovered that the morbid sensibility was located *entirely* in the cutaneous surface, constituting a true

and most intense hyperæsthesia of the skin of that part. There was slight deviation of the tongue to the right side, and the left pupil was considerably dilated. His wife declared that his speech was a little thick a few days before, but to-day he spoke with sufficient clearness of articulation.

There was no evidence of paralysis about the limbs. He was very restless, rising from bed every now and then and walking the room; he said this restlessness was caused by the pain in his left thigh. It appeared from further inquiry that he had had, in years past, one or more attacks of acute rheumatism (not definite as to time), and, according to his wife's statement, had been much annoyed, more especially of late, with severe paroxysms of palpitation of the heart, coming on in the night, and disturbing her very much as she lay by his side.

On physical examination, the rhythm of the heart was found to be disturbed, and there was a murmur with the first beat, which we took to be *aortic*. Capt. McB.'s family history showed a perfect freedom from all forms of cerebral disease. He was, to all appearance, a healthy, robust man, without being plethoric, and had always led an active life, being for some time a steamboat captain on the Mississippi river. Had nothing like a fainting fit, and no loss of consciousness.

The diagnosis then was that there had long existed cardiac valvular disease (probably aortic), with fibrinous deposits; that one of these so-called vegetations having become detached, was carried by the current of the blood toward the brain, in one of the smaller vessels of which it had become impacted, thus cutting off the supply of nutritive fluid from that portion of the brain, and consequently leading to rapidly progressive softening (*ramollissement rouge*). From this conclusion of the state of affairs, it was feared and believed that there would be declared, sooner or later, *paralysis, more or less extensive*, according to the locality of the accident and the amount of brain substance involved.

About three days after this, that is on February 28th, at the morning visit the patient was found to be completely hemiplegic upon the right side of the body, while the left side of the face was paralyzed; speech was likewise completely destroyed, and the respiration much embarrassed, the patient breathing very rapidly for a few moments and then taking a deep sigh. The intellect was not impaired, and he proved his understanding by the expression of his countenance, as well as by gesticulations with his unaffected arm. The pain in the left thigh continued unabated, and seemed to be unaffected by the progressive change in the brain. After the hemiplegic attack, the pulse became small and rapid, about 120. The bowels constipated (not being moved either by croton oil or a variety of enema), and in a few days there was a disposition to retention of urine.

The muscles of the œsophagus being affected equally with those of the same side, difficulty of deglutition in a few days became so great as to preclude the administration of medicines or nourishment by the mouth, except in very minute and useless quantity. Stimulating and nutritious enemata were thrown from time to time into the rectum, but had to be abandoned from the evident discomfort produced.

The action of the heart and lungs became gradually more and more impaired, until with, in the last few days, accompanying coma he sunk by degrees, and died on the 9th of March, quietly and without a struggle, from cessation of action in these two important organs. The number of respirations six or seven hours before death reached the extraordinary figure of 95 to the minute.

It will be seen that the history gave no hereditary predisposition to cerebral trouble of any kind, while the only account of previous disease of any importance pointed to several remote but severe attacks of rheumatic fever; no recollection of cardiac complication in any of those could be recalled, but recent and recurring paroxysms of violent palpitations gave positive evidence of some embarrassment

in the apparatus of circulation, and furnished an indication as to the true source of the cerebral affection.

On physical examination of the heart there was evidence of aortic retrecissement, viz: a systolic bruit transmitted along the primary artery, together with general symptoms pointing to circulatory irregularities in the direction of the blood current, and complete absence of any such symptoms on the right side of the heart or in the inverse direction of the circulation; as, for example, engorgement of liver or portal veins, congestion and hæmorrhage of the lungs, dropsical effusions, etc. Thus mitral disease was excluded, and the orifice of the aorta and semilunar valves indicated as the affected point.

We must exclude chronic softening from the rapidity with which the paralysis was developed, as well as from the absence of any premonitory symptoms, except the headache, as indicative of morbid change in the cerebral substance.

The most striking and notable symptom was the extreme hyperæsthesia which persisted throughout, and upon the side opposite to that paralyzed. The distinction from apoplexy was in the absence of anything like a fit, and in the retention of consciousness and the preservation of the mental faculties even after the hemiplegia was complete.

As DACOSTA remarks, one of the diagnostic points of obstruction of the cerebral arteries is, that the hemiplegia at its onset is not of necessity attended by loss of consciousness, or that this is slight and of short duration.

#### *REMARKS ON THE USE OF MERCURIALS IN INFLAMMATION.*

Read before the Wood County Medical Association.

By WALTER COLES, M.D., of Parkersburg, W. Va.

In contemplating the therapeutic value of mercurials in inflammation, we have a humiliating illustration of the reign of empiricism in our profession. Mercury, although

known since the days of DIOSCORIDES and PLINY, was never used as an *antiphlogistic* until a comparatively recent date. This questionable honor, although claimed by England for Dr. HAMILTON in 1804, seems properly to belong to Dr. WM. DOUGLASS, of Boston, who, about the year 1735, employed mercury in the treatment of a terribly fatal epidemic of sore throat which swept over New England.

It would be an endless task to go into a minute detail of the various theories which have been propounded touching the physiological effects of this drug. Such have been the various and even contrary views respecting the nature of inflammation and its mode of relief, that the advocates of mercury have contended that it acted antiphlogistically in one or more of at least *ten* of its physiological properties. With the mass of medical men, however, it is with a view to its "*alterative*" effects that it is usually prescribed in inflammatory diseases; its other properties, though sometimes co-operative, hold rather subordinate positions. It is chiefly as an alterative, therefore, that we propose to examine it.

As to the precise manner in which most alteratives act, we can, as yet, only theorize. Too many are content with believing that they are good for this or that, and prescribe them without any inquiry as to their physiological properties. It has been said of this term, that it is "one that is sufficiently indefinite to suit any theory, and may be applied to almost any means used for the mitigation of disease." And, as if in illustration of the sarcasm of HABERSHON, alteratives are defined by HEADLAND to be "*Catalytic Hæmatics; i. e., medicines which, by an operation in the blood, are enabled to counteract disorders which depend upon active morbid agencies.*"

Now, we all know that, in one sense at least, mercury has positive alterative properties. When administered for a length of time, varying with the dose and individual peculiarities, its tendency is to lower the standard of health by impoverishing the blood and wasting the body. An



analysis of the blood of persons under the mercurial influence, by Dr. WRIGHT, reveals the fact that its water is greatly augmented, that it has lost one-third of its fibrine, one-seventh of its albumen, one-sixth or more of its globules, whilst at the same time it is loaded with an effete material, and is more prone to putrefaction. By thus acting, it is claimed to set up an artificial disease in the system, inimical to the continuance of the inflammatory process. By its modifying effect upon the blood, it is contended that it reduces its plasticity, counteracts the tendency to effusion, and promotes absorption.

I will remark at the outset, in discussing these propositions, that all observations in the animal kingdom, as well as all analogies in the vegetable world, teach us that there is an intrinsic vital tendency to repair damage wrought in their tissues by disease or injury, so long as life lasts. If a traumatic injury is received, the injured part at once becomes the seat of an irritation, running rapidly into inflammation, with effusion of lymph, which lymph, if it be of a healthy character, is made subservient to the work of reparation; if no disturbing element interferes, the local effusion takes on that vital action most needed to repair the particular part injured. If a bone is broken, the effused lymph undergoes ossification, and unites the sundered fragments as firmly as before, and when its work is done, the redundancy of reparative material is gradually absorbed. If a muscle or a tendon is severed, the product of inflammation does not ossify as in the former case, but assimilates itself to the parts injured. Inflammation, wherever it arises, to use the words of CHAMBERS, is essentially a work of "destruction," but opposed to this, is the element of "construction," whereby the process of disintegration is not only checked, but repaired. The scale of life or death turns with the preponderance of one or the other of these forces, and it is the physician's duty to watch closely this contest which is to decide the fate of a fellow being, and stand ready to give such timely aid as is calculated to avert

the dread catastrophe. With the immortal precept of CULLEN ever in his mind, he should strive to "obviate the tendency to death." Now, what is the tendency to death in inflammation, and upon what do we base our prognosis in such cases? We answer by saying that inflammations either recover after running through a certain course,—or else there comes a time when construction surrenders to destruction, and vitality ceases. *Asthenia*, then, is the general cause of death in inflammation.

It is precisely here that the question arises: *Are we justified, in the present state of our knowledge of the inflammatory process, in assuming that that state of the blood induced by mercury is a desirable condition upon which to found a favorable prognosis?* We think not, and we believe we are borne out in this conclusion by every aspect in which the case can be viewed.

It will be readily conceded that the result of inflammation is considered favorable or unfavorable, in proportion to the vigor of the patient. If a healthy young man has pneumonia, we console anxious friends by saying, "he has a good constitution; his pulse, though quickened, is yet strong, and we believe he will be able to go through safely." In other words, we know that pneumonia, like all other inflammations, runs through progressive stages, and that if the patient can but weather the storm, he will sooner or later arrive in a port of safety. But the advocates of mercury claim that its timely exhibition will actually cut short the disease; starving out the morbid process by a destruction of the "inflammatory element" of the blood. Now, both of these assumptions are founded on exploded pathology, and are inconsistent with observation and experience.

Modern pathologists have demonstrated that hyperinosis, which mercurialists contend is the fuel that adds fury to this morbid flame, is the *result*, and not the *cause*, of inflammation; it represents the *ashes* of a retrograde metamorphosis in the tissues. To defibrinate the blood with

mercury, therefore, is no more potent in stopping inflammation than the removal of the cinders is effectual in extinguishing the combustion within the stove. But the effect of mercury in these cases is not only negative, it is positively injurious; indeed, in many instances, it is the worst thing that can be given; for, as CHAMBERS remarks, "mercury distances all the contents of our pharmacopœia in the power of hastening destructive metamorphosis." By destroying the fibrine and globules of the blood, it loads it with an effete poisonous material, lowers its vitalizing properties, and thus takes away the last bulwark which defends the tissues against disintegration.

Not only is mercury injurious in thus striking a deadly blow at vitality itself, but it may prove hurtful in another way, by thwarting the wise and conservative provisions of nature. Pathology teaches us that inflammatory effusions are of two kinds, *fibrinous* and *corpuscular*, and that the tissues involved exercise a large determining influence over the character of the effused products. Like the lymph around broken bone, the effusions of inflammation, under auspicious circumstances, are always of a character favorable to a speedy and safe recovery. That the products of inflammation in *shut sacs*, such as the pleura, peritoneum, pericardium and the like, is fibrinous, and thus favorable to rapid absorption, or the adhesion of opposing surfaces, seems to be in accordance with a wise law. This law, however, only holds good so long as a certain state of vitality is maintained. In proportion as the destructive metamorphosis gains upon the powers of construction in the system, do we find the effusion on serous membranes become less and less plastic with each successive layer; what was in the beginning of the inflammation fibrinous lymph, has become corpuscular or suppurative—a condition most unfavorable to recovery.

Now, it is in inflammations of serous membranes, such as we have mentioned, that the advocates of mercury contend that it is particularly advantageous, and for the reason

that the exudation, in these cases, is typical of what they call a *sthenic* condition of the system. Thus it is, that they would seize hold of one of nature's wisest safeguards as a pretext for reducing the vital forces to the very standard which, in these same affections, constitutes the chiefest danger to the weakly, shattered subject of previous ill health. Given at the height of the inflammatory process, then, we contend that mercury never shortens, but often aggravates and prolongs it, by interfering with nature's cure, which is most active and efficient when the system is strong and vigorous, and the blood rich in vitality.

But gentlemen who have relied for a life time upon mercurials, are loth to give them up. They say we can theorize as much as we please, but they *know* that mercury will "cure" inflammation, because they have accomplished it too often to be deceived about it. They prefer to throw theory to the dogs, and appeal to facts and experience. We acknowledge the potency of these arbiters, and are willing to leave this question with them. In the first place, we remark—for it is a common observation—that the constitutional effect of mercury (which they contend is essential to its efficacy), is very difficult, if not impossible, to be obtained during the climax of inflammation. Says Dr. WILLIAMS, in his Principles of Medicine: "Calomel and opium have little influence over high inflammatory fever, and the system thus excited generally resists the mercurial action." The late Dr. BECK, of New York, in his work on Materia Medica and Therapeutics, remarks, that there are "states of the system in which its constitutional effect either cannot at all be produced, or is attended with great danger." One of these is "plethora and great vascular excitement," which must be modified by "other appropriate means, if we desire to use mercury either safely or effectually." Thus we see that, even among the advocates of mercury, it is not recommended until some amelioration of the symptoms is manifest, and that their "*post hoc, ergo propter hoc*" argument is not to be relied on in judging of

the efficacy of mercurials in inflammation. On the contrary, it is more rational to believe, not that the disease yields because the gums are touched, but that the gums are touched on account of the incipient subsidence of the disease.

Again, experience by no means confirms the dogma held by some, that mercury in any way fortifies against either the supervention or progress of inflammation. On the contrary, it even begets this condition, for salivation is not only inflammation, but inflammation of the most intractable and dangerous character. On the subject of its prophylactic properties, Dr. FULLER, in his work on Rheumatism, says :

When given so as to affect the mouth, mercury proves exceedingly depressing, and is sometimes productive of evil consequences, which may be felt for weeks, months, or even years. Moreover, it exerts no perceptible influence over the rheumatic poison, nor does it assist in preventing the access of cardiac inflammation, for pericarditis and endocarditis supervene as readily whilst the patient is under the influence of mercury, as when that drug has not been administered.

Dr. MACLEOD gives it as his experience, that

Rheumatism has continued although the mouth was affected, while it has readily subsided on continuing the narcotic and purgatives without the mercurial.

The following are the pathetic and manly words of Dr. CHAMBERS on this subject :

I do not order mercury in acute pericarditis, and I will frankly tell you why, since it is right that I should make my practice useful to you as a warning as well as an encouragement. Ten years since, a robust and excitable girl of sixteen had rheumatic fever; from her constitution, I feared that she was likely to have her heart affected, for young persons of a nervous temperament are much the most liable; I had an impression, then, that mercury would prevent the occurrence of inflammation in serous sacs. I put her under the influence of mercury, the pericarditis came on, and the patient died in the height of it. This result made a deep impression on my memory; her fair young face always rises before me when the idea is mooted of preventing pericarditis with mercury. and I shrink from using it.

Since mercury is considered the sheet anchor by so many in acute heart affections, I will give one other quotation, from the gleanings of experience in this direction. Dr. JOHN TAYLOR has published in the *London Medical*

*Gazette*, July 20, 1849, an analysis of forty cases of pericarditis, as follows: ptyalism produced no abatement of pericarditis in twelve cases; in one case, pericarditis and pneumonia both became aggravated after ptyalism; in four cases, pneumonia came on after ptyalism; in three cases, endocarditis supervened after ptyalism; pericarditis attacked the patient after ptyalism in six cases; in one case, ptyalism could not be induced, yet the pericarditis went on favorably; in two cases, ptyalism was followed by extensive pleurisy; in one by erysipelas and inflammation of the larynx; in two cases, rheumatism continued long after ptyalism was produced; in the remaining four cases ptyalism was followed by recovery, but in one of these the patient was mending when the mercury was given.

There is probably not one physician in five hundred who would attempt to treat *acute iritis* without mercury, and yet, if the principles for which I have contended are sound, they are as applicable to iritis as pericarditis, or any other inflammatory disorder. Nor are we without some data on which to found this remark, for Dr. H. W. WILLIAMS has published in the *Boston Medical and Surgical Journal*, Vol. LV., an account of sixty-four cases of acute iritis, treated and cured without mercury. These cases include the idiopathic, traumatic, rheumatic and syphilitic varieties.

Owing to its frequency and importance, I will give a few figures in *pneumonia*. I do this the more readily, because I am not without a fair share of experience in this disease. The profession owe Dr. J. HUGHES BENNETT an endless debt of gratitude for the revolution, which is mainly due to him, in the therapeutics of this disease, whilst thousands of his fellow men are indebted to him for life itself. Of 1,189 cases of pneumonia treated in the hospitals of Edinburgh, Paris, Vienna and Milan, on the antiphlogistic plan, more or less heroic in its details, 270 deaths occurred, or more than 1 in 4 1-2. DIETL, in Vienna, treated 380 cases as follows: 68 by blood-letting, mortality 1 in 5; 84 by tartar emetic, mortality 1 in 5.22; on the other hand, 175 were

treated by diet alone, with a mortality of 1 in 13 1-2. Dr. BENNETT reports 129 cases treated on a strictly restorative plan, with a mortality of 1 in 34 1-4. Dr. A. T. H. WATERS, who is no friend of the antiphlogistic use of mercury, has been lucky enough to cure 43 out of 44 patients with pneumonia. I happen to have the notes of 14 cases, treated under my eye, whilst in the resident staff of Bellevue Hospital, N. Y. Of these there was one death, in a man aged 58, of delirium tremens. The common treatment of pneumonia in Bellevue, whilst I was there, consisted of dry cups, oil silk jacket, occasional blisters, an expectorant mixture, and nutritious diet, together with stimulants when required.

There has been very little pneumonia in Parkersburg for a year or so past. I will mention, however, a few of the most interesting cases occurring in my practice, which were not only double and complicated, but so desperate that consultations were held, hence they are familiar to several members of our society. Of the first two cases (the M. brothers), only one was my patient; the younger of these, a very robust young man aged 22, had double pneumonia supervening on typhoid fever; was treated by another physician; was ptyalised, and died in ten days. The second brother, also a stout young man of 24, had extensive double pneumonia supervening on typhoid fever, one week after his brother's death; he received highly supporting treatment from the start, and, although extremely ill for six weeks, finally recovered. The third case was that of Mrs. N., æt. 57; double pneumonia supervened after three weeks illness with remittent fever. Her treatment consisted of beef tea, milk, whisky, blisters, quinine, Dover's powder, and carb. ammonia. She recovered in seven weeks, after consuming 2 1-2 gallons of whisky. The fourth case was that of Miss H., an extremely delicate old lady of 64. She had violent double pneumonia with measles; her treatment was dry cups, poultices, blisters, Dover's powder, decoction of senega, beef tea, milk, wine

and brandy. Recovered slowly in three months; lungs were a long time "clearing up;" dry cups were applied every day for weeks. Health now better than for fifteen years past. Case fifth is that of a negro man, H., æt. 25, scrofulous from birth, and whose lungs were tuberculous. He had extensive double pneumonia, and recovered in three weeks under supporting treatment. Case sixth is that of Mrs. M., a vigorous young woman of 28. She was attacked with double pneumonia in the seventh month of pregnancy, and labored under orthopnoea for four or five days; miscarried, but got well in three weeks under similar treatment. Now here are six remarkably severe cases of double pneumonia, all complicated, and occurring under most unfavorable circumstances. Of the six cases, one was salivated, and sank rapidly. Of the remaining five, not one took mercury, and all recovered. These are facts which speak louder than words or theory.

I wish it not understood, however, that I would read mercury out of the catalogue of remedial agents; far from it. Employed at the proper time, and under proper circumstances, it is of great value. It is an agent with which we have become so familiar, that we are too prone to administer it where "bread pills" would do better. When judiciously handled, it is powerful for good, but it should never be forgotten that it can be as potent for harm. It is a most excellent cathartic in some of its forms, but is much abused, even for that purpose, in inflammations. It is contrary to the teachings both of pathology and experience to believe that it can in any way prevent or cure inflammation. There are conditions, however, connected with and growing out of the inflammatory process, in which I would not fail to recommend it. I would never use it as an *antiphlogistic*—as an engine to put out the fire—but rather as a *scavenger*, to carry off the debris of the conflagration when the flames have subsided. It certainly seems to stimulate the absorbents, as well as many of the excretory glands, and with this view I would use it in



certain cases, where the products of inflammation are likely to do much harm to some important organ, or endanger life. Happily these cases do not very often occur. Combined with a tonic, it is frequently of signal advantage in any condition where nature seems unable to dispose of large effusions; and in urgent cases of this kind I would give it at any stage of the inflammation—not, as I have before said, with a view to any supposed anti-inflammatory virtue, but as a promoter of absorption and excretion, whereby life may be saved, even at the sacrifice of weakening the vital powers.

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#### HOSPITAL REPORTS.

- I. *Death from Compression of the Pneumogastric Nerve by Aneurism of the Left Subclavian Artery.* Reported by THOS. FOX, M.D., Assistant Physician to the Quarantine Hospital.

C. F., aged 56 years, a native of France; medium height, short and thick neck; muscular system powerfully developed; was admitted to hospital suffering from chronic diarrhœa, from which he recovered. No examination was made of the chest, as there was neither pain, dyspnœa or irregular pulse indicating any lesion of the thoracic viscera. Six days previous to death he complained of pain at the base of the right lung, accompanied by cough and dyspnœa, with sensations of suffocation referred to the larynx; dullness on percussion and crepitation were found at the base of the right lung; respiratory murmur weak over the whole extent of both lungs; extent of præcordial region increased; heart beat full, strong and regular; no difference of force in the pulsations of the right and left radial arteries at the wrist; a marked difference in the force of pulsation in the right and left carotids, that of the right being full and strong, visible at a distance of twenty feet

from the patient, that of the left being weak and soft. No difficulty of deglutition. The cough was peculiar, being short, low, deep toned, and rough; the voice was of like character in tone. There was difficulty of articulation, the patient fixing the muscles of the lips and cheeks in several positions before speaking. He was of a sullen and morose disposition, and his previous history could not be elicited from him. He could not maintain the erect position, from being attacked by vertigo, or assume the lying posture, from sensations of suffocation. He was in the most terrible agony, in a semi-erect posture, with open mouth and parched tongue, gasping for air; the hand was often carried to the larynx, to which all his sensations of suffering were referred. The heart beat strongly to the last.

*Post Mortem.*—Heart very large, walls thickened, cavities not enlarged, all save the left ventricle filled by very dark colored coagula of blood; its veins distended; no degeneration of the muscular fibre visible to the naked eye; valves, auricular, ventricular, aortic, and pulmonary, healthy; no excess of serum in pericardium; calcareous degeneration of middle coat of aorta immediately above its valves. An aneurism as large as an egg was found at the origin of the left subclavian artery, pouched upward and forward against the first rib, and encroaching upon the diameter of the left carotid; it had ulcerated through the coats of the vessel, but firm adhesions were formed to the first rib; the subclavian artery was impervious immediately to the outer side of the sac, the brachio-cephalic vein pushed upward; the circulation was obliterated, and a spontaneous cure of the aneurism had taken place. The left pneumogastric nerve crossed the sac about its middle, and was firmly bound in its adhesions and compressed against the first rib; the phrenic nerve crossed the outer border of the sac. The left lung was œdematous, giving no sensation to the fingers of containing air, and filled with frothy, reddish colored serum; the right lung congested, not filled with serum like the left, a slight pneumonia at

the antero-lateral portion of its base. The collateral circulation was carried on principally through the anastomoses of the anterior intercostal branches of the internal mammary with the thoracic branches of the axillary; also, through the profunda cervicis with the occipital and the superior and inferior thyroid arteries of both sides through the thyroid axis; also, through that of the dorsal scapular branches of the sub-scapular with the transversa colli and supra-scapular arteries. I have no doubt that death was produced by apnœa, caused by spasmodic closure of the glottis, from irritation of the recurrent branch of the pneumogastric, it being compressed against the first rib previous to its winding around the arch of the aorta to return and be distributed to the muscles of the larynx; as there was no danger of death from rupture of the aneurism, and the collateral circulation had evidently been established for quite a period of time. From the want of difference in the pulsation of the radials, and the difference in that of the carotids, it would be apt to be diagnosed as a tumor pressing upon the left carotid. Could the nature of it have been known, life might have been prolonged by performing tracheotomy, and admitting air into the lungs in that manner. I would not know how to account for a spontaneous cure of aneurism in this position, unless the sac first pouched toward the carotid artery, and that a layer of fibrine was deposited upon its walls, which, from the jarring motion constantly communicated to it, became detached, dropped down, and occluded the subclavian artery.

II. *Intermittent Pulse, caused by a Dilated Bronchus pressing upon the Aorta.* Reported by THOS. FOX, M.D., etc.

W. G., æt 48; suffering from chronic phthisis; weak and emaciated; pulse 98 to 106; dullness on percussion over the entire extent of the right chest, with the exception of the apex of the lung, where the cracked pot sound could be elicited, and auscultation detected loud cavernous respira-

tion; respiratory murmur increased over all portions of the left lung.

What was interesting as well as perplexing, in this case, was an intermission in every sixth, and sometimes seventh beat of the pulse in the radial arteries, while there was neither intermission nor irregularity in the sounds or beats of the heart. For nearly three months I watched this case, and puzzled myself to find its cause, but failed, until death and a post mortem examination solved the problem. The right lung was found solidified throughout its whole extent, save a small portion of its base; into this I could find no bronchial opening. Large deposits of a black carbonaceous material were found in various portions of the lung. A large cavity existed at the posterior part of the apex. Left lung healthy. No valvular lesions of the heart. Behind the ascending aorta was found what appeared like a tumor, but, on examination, was found to be the right bronchus dilated so as almost to admit the hand, while the left was but large enough to admit the index finger. The cause of the intermittent pulse was now apparent, and the manner of its action demonstrated by closing the mouth and one of the nostrils, and inflating the lungs through a tube inserted in the other, when the right bronchus became so dilated as to almost obliterate the aorta. In this way, at each act of inspiration, the attenuated and dilated bronchus was distended, and, pressing upon the ascending aorta, obliterated the pulse. I present this as an interesting case, as I can find none such mentioned by authors, nor is the probability of such a case mentioned in our lectures.

Both specimens described above are in the possession of Prof. JOHN T. HODGEN, St. Louis Medical College.

III. *Cases of Fracture treated at the St. Louis (Sisters') Hospital from Oct., 1868, to March 1, 1869, in the wards of Dr. E. H. GREGORY. Reported by H. Z. GILL, M.D.*

FRACTURES OF THE THIGH.—Patrick McDonaugh, aged

65. Simple fracture of the left femur in the middle third; caused from a falling wall, Oct. 15th. Treatment: At first the limb was placed, slightly flexed, on pillows. Later, the long splint of LISTON, with perineal band, was applied, and short paste-board splints were placed over the site of the fracture. Oct. 24th, the dressing, bandages, etc., were re-applied. The limb was measured in December by means of the *double square*\* instrument, when the shortening was half an inch. Limb was very stiff.

James McGuire, aged 46. Simple fracture of the left femur in the upper third (near or at the trochanter). Cause—fell through a hatchway, three stories, Oct. 30. Treatment: LISTON's long splint with perineal bandage, and short splints on the upper part of the thigh. Patient had delirium tremens for a number of days, necessitating keeping his hands tied, and also the right foot attached to the bedstead. The limb was measured sixty days after the receipt of injury, with tape line and with *double square*, showing a shortening of one and three-fourths inches.

John Flarty, aged 10. Admitted Aug. 9. Simple fracture of the right femur at or near the trochanters. Caused by a fall through a sky-light. Treatment: The long splint was kept on for eight weeks. Then the plaster-of-Paris bandage was applied and retained two weeks. Nov. 19th, the shortening was half an inch, measured with the double square. In the first of the treatment the lower extremity of the upper fragment was very prominent.

FRACTURES OF THE LEG.—Peter Schranz, aged 25. Entered Nov. 19. Fracture of both bones of the left leg above the ankle joint. Cause—fell while jumping out of the cars. There was decided eversion of the foot. Nov. 22, applied the plaster-of-Paris bandage, in the form of strips about three inches wide of several thicknesses of muslin, saturated in the plaster. Recovered.

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\*We shall have an opportunity to describe this instrument and method of measuring fractures for shortening, real or supposed, in the future.

Barney Dailey, aged 30. Entered Sept. 4th, with fracture of both bones of the right leg about the junction of the middle and lower thirds. Cause—run over by an omnibus. There was a soft wound of the soft parts, but it did not communicate with the fracture, though very near it. Treatment: Dressed the wound with the carbolic oil of Prof. LISTER. After three days applied the plaster-of-Paris in strips, as in the last case. Patient recovered without any unpleasant symptoms.

James Ryan, aged 38. Entered Aug. 24, with fracture of both bones of the right leg in the upper third, near the knee. There was a wound, but it did not communicate with the fracture. Treatment: At first carbolic oil to the wound, and temporary board splints. On the sixth day applied the plaster-of-Paris bandage. Recovered.

Joel Mowrey, aged 58. Oct. 19 he fell on the pavement while walking (intoxicated), producing a fracture of both bones of the right leg three inches above the ankle-joint; also, a laceration of the integument, not communicating with the fracture nor with the joint. At first applied socks and lateral splints; dressed the wound with carbolic acid. Oct. 20, applied plaster-of-Paris bandage in the form of strips about three and a half inches wide, as in case four. Patient had been sick, and said he had taken a few drinks, before the accident, to procure vomiting. Oct. 24, the dressing was re-adjusted (a rule in treating fractures generally followed here), removing the anterior plaster splint, and re-applied. Patient died Nov. 1st, of typhoid fever. The fracture seemed to be doing very well, and probably had little or no effect upon the general condition of the case, which should not be counted in making a table of results.

UPPER EXTREMITY.—Peter McCower, aged 12. Fell Oct. 1, from a fence, fracturing both bones of the forearm about the middle. Treatment: Dressed with flat splints with graduated pad, re-dressing every few days. Recovered.

Mrs. Canty, aged 55. Oct. 26, entered with fracture of

both bones of the left forearm in the lower third. Treatment: Dressed with flat splints and interosseous pads. Recovered.

Friedrich Schick, aged 34. Entered Nov. 25, with fracture of the left forearm at the junction of middle and upper thirds. Cause—injured by machinery. There was some contusion of the upper portion of the limb. Applied board splints to the limb, and carbolic acid to the abraded surface. Recovered.

Ellen Canby, aged 35. Entered Dec. 30, with fracture of the lower third of the right radius. Cause—fell down stairs. Treatment: Applied the pistol shaped splint. Recovered.

Patrick Murphy, aged 6. Entered Jan. 14, with fracture of both bones of the left forearm. Cause—fell while running. Treatment: Pistol shaped splint. Recovered.

Mary McDonnald, aged 45. Exact date not given. Fracture of the right radius in the lower third. Cause—fell down a flight of stairs. Treatment: Applied a pistol-shaped splint. Recovered.

James Headen, aged 14. Oct. 14, fell six or eight feet from a bank, alighting upon his hands, producing a fracture of the right radius in the vicinity of the wrist joint. Dressed with a pistol shaped splint.

[There were other cases of fracture of minor importance, and others of a more complicated character, not reported at present.]

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## Reviews and Bibliographical Notices.

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*SYPHILIS AND LOCAL CONTAGIOUS DISORDERS.* By BERKELEY HILL, M.B., Lond., F.R.C.S., Assistant Surgeon to University College Hospital, etc., etc.: Philadelphia. Henry C. Lea. 1869. 8vo., pp. xxviii, 451 (467). Price \$3.25.

[For sale by Frary, Cowan & Krath, Booksellers, 219 North Fifth Street ]

Mr. BERKELEY HILL's book is likely to compete successfully with Dr. BUMSTEAD's excellent work on venereal diseases. Considering the scope of the book and the careful attention to the manifold aspects and details of its subject, it is wonderfully concise. It is, moreover, a fair representative of the modern doctrines of syphilis. Mr. HILL is a decided dualist; and though he has not been content to merely make the dualist theory the basis of his work, but adduced the proofs to support it, yet it is gratifying to note that his pages are free from partisan animosity and doctrinal contention. All these qualities render it an especially valuable book to the beginner, to whom we would most earnestly recommend its study,—while it is no less useful to the practitioner.

The first division, or introductory, treats of the history and the modern views of venereal diseases; the second, and by far the largest, of syphilis, the third of chancre, the fourth of gonorrhoea, and the fifth of "accessory venereal disorders." In the two historical chapters, the author has been particularly successful in meeting the wants of the student, giving a brief, but lucid and readable sketch of the history and literature of his subject. The second division occupies 273 pages,—more than half the book; its chapters give a general outline, and then discuss the mode of propagation, the progress of the disease, the eruptions on the skin, affections of the alimentary canal, air-passages, bones, muscles, tendons, and so on through the list of organs, and infantile syphilis; then follow chapters on the differential diagnosis, the prognosis, and the treatment of syphilis. The author adopts



the term *initial manifestation* to designate the hard (infecting, indurated) chancre of the old phraseology, as being "the least objectionable, because it comprises all the various phases in which the disease reveals its presence, without describing them, or attempting to distinguish one from another." On the other hand, the local venereal sore (soft or simple chancre, chancroid) is simply called *chancre*, which is the subject of the third division. The differences between the local ulcer and the initial lesion of syphilis are here well contrasted in a parallel table, modified from that of CLERC and BLACHEYRE.

In the chapter on treatment, the author reveals himself as an able and ardent advocate of the use of mercury in syphilis. By repeating some of his arguments on this point in his own language, we expect at the same time to present a fair specimen of the author's style :

In the historical sketch of the treatment of syphilis, it has been pointed out how every attempt to subvert the influence of mercury in treating syphilis has successively fallen to the ground; how, in the fifteenth and sixteenth centuries, the mischief that accrued from its unmeasured employment brought mercury into disfavor; though it gradually recovered and maintained its position until the beginning of the nineteenth century, when the discovery that mercury is not essential for the cure of syphilis, led to its being again discountenanced by great numbers of surgeons. Yet it is now generally admitted that no other medicine exerts so much influence over the progress of syphilis, while we have satisfactory evidence, collected by Dr. KUSSMAUL, that mercury has no power to produce certain late affections in syphilis as was at one time maintained. . . . Mercury is injurious to syphilitic persons just and only as it is injurious to non-syphilitic persons, namely, by causing the undoubted effects of mercury upon the human system. These can be almost wholly avoided, while their useful influence over syphilis is secured, if the drug is administered with due precautions. The advantages which are well ascertained to result from giving mercury in syphilis, are these: if given early, it promotes the dispersion of the induration at the point of contagion and the enlargement of the glands; it delays and lessens the severity of the cutaneous eruptions, and of all the symptoms which accompany the early skin eruptions. In the later forms of syphilis, though not so generally applicable, it is often more serviceable than any other medicine. It cannot always be borne at these stages, and sometimes, but less often, it fails of effect; and more rarely still, it does positive harm. With all this it cannot be looked upon as a *preventive* of syphilis. It is true that in a few instances the disease is at once arrested where the patient is submitted to the influence of mercury, and all patients who take mercury have their disease more or less curtailed; in this sense

syphilis is prevented, but only in this sense. Mercury is frequently injurious if given to persons very much broken down in health, or affected by venal disease; but even in these cases it is impossible to lay down any rule prohibitive of mercury, because it frequently happens in such debilitated persons, when syphilis is the cause of their debility, that mercury restores their strength more rapidly than any other medicine. It is also commonly stated that the vesicular and ulcerating syphilides are not benefited by mercury; this is only generally true. Patients with pustular eruptions sometimes resist all plans of non-mercurial treatment, but recover rapidly when given mercury, if they receive it in very small doses.

We would gladly extend this extract over the author's statements of the cases in which mercury is appropriate, but for the limited space at disposal. It will suffice to introduce this very meritorious, well-written volume to the attention of the reader.

G. B.

*THE STRUCTURAL LESIONS OF THE SKIN: their Pathology and Treatment.* By HOWARD F. DAMON, A.M., M.D., etc., etc. Philadelphia: J. B. Lippincott & Co. 1868. 8vo., pp. xii, 255. Illustrated. Price, \$3.00

[For sale by Fry, Cowan & Krath, Booksellers, 219 North Fifth Street.]

With commendable promptness, Dr. DAMON adds to his "Neuroses of the Skin"\* the exposition of another of his four classes of skin disease, with the above title. The structural lesions are farther sub-divided into hypertrophies, atrophies, and pathological new-formations. This is very correct and good; but it proves the simplicity of the author's classification, as compared with HEBRA's, upon which it is confessedly based, to be somewhat illusory. Dr. DAMON has not "reduced" HEBRA's four classes embraced in the present treatise to one, but to three, of which he has made one order, and called it a class. So that in the end we presume that we shall have HEBRA's divisions, with the names and headings a little altered. In regard to the suppression of HEBRA's 12th class, *Parasitæ*, if it is the author's intention to distribute the parasitic affections among other groups of skin disease according to the anatomical changes the parasites induce, he would do well to consider HEBRA's note, in which he acknowledges the want of logical harmony in his principle of classification, but confesses himself unable to avoid this "without hazard-

\* Cf. Vol. V, N. S. (1868), p. 426, of this Journal.

ing the practical utility of the system." (*Hautkrankheiten*, Erlangen, 1860, p. 36, foot note.)

Dr. DAMON deals with his subject cleverly, and describes well. The abruptness of language we noted in his "Neuroses" does not appear to the same extent in this part. There is little new in the book, but the promise, in the preface to the "Neuroses," "to supply all that is now positively known," seems to have been the end in view here also. He follows the later authorities, especially HEBRA, pretty closely, and avoids debatable points as far as possible; hence his language has a good deal of positiveness, sometimes perhaps too much. For instance, in regard to the contagiousness of molluscum, which he positively denies (like HEBRA and WILSON), we would call his attention to the short article of VIRCHOW in his *Archiv*, Bd. xxxiii, p. 144. At the same time, we think he is fully justified in dropping the adjective "*contagiosum*" applied to the disease by BATEMAN. A like simplification of nomenclature would have been equally judicious in some other names. For Elephantiasis Arabum the generic name alone would suffice, if the author had not retained Elephantiasis Græcorum for Lepra, which designation for the latter disease is preferable on all accounts, especially as there is still another disease to which the name of elephantiasis is sometimes applied: *E. italica* for Pellagra.

The "Bibliography" appended to the volume is a most useful feature of the book, and its introduction deserves all praise. It is a very large list, but we have not had leisure to examine its degree of completeness. The article, incidentally mentioned above, on molluscum contagiosum, does not appear in it.

The appendix, "Brief Histories of Human Horns," occupying 32 pages, is an interesting collection, but is entirely out of place in a book of the scope of the present one. Brief histories of cases of elephantiasis, or other diseases here described, would have been no less curious or appropriate, and would have swelled the volume still more. The book is too big as it is; the modest exterior of the English "manuals" on the same subject is much more agreeable, notwithstanding the beauty of Messrs. Lippincott & Co.'s typography. A single page in WILSON'S *System of Cutaneous Medicine*, Lea's edition, contains nearly as much as three of the pages we have just been reading. G. B.

**A CONSPECTUS OF THE MEDICAL SCIENCES:** comprising Manuals of Anatomy, Physiology, Chemistry, Materia Medica, Practice of Medicine, Surgery, and Obstetrics, for the Use of Students. By HENRY HARTSHORNE, A.M., M.D., Professor of Hygiene in the University of Pennsylvania, Auxiliary Faculty of Medicine, etc., etc. With 310 Illustrations. 8vo., pp. 1002. Philadelphia: Henry C. Lea. 1869. Price, cloth, \$4.50; leather, \$5.25.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

Dr. HARTSHORNE having discovered that "the thorough perusal of *extended* text-books by students, during the months of their attendance upon medical lectures, is impracticable," and that "the time for such study, eminently important as it undoubtedly is, must be before and after that period," has made a book for the sole and exclusive use and benefit of those who, too dull and stupid to comprehend the high office of the physician, too ignorant to have any love for science and art, and too lazy to labor manfully for the acquisition of useful knowledge, would nevertheless, if possible, by some hasty and altogether convenient process, make Doctors of themselves. We trust we do the author no injustice in saying he has been laboring in behalf of such fellows, for we think he must know that when men, thinking men, working men, honest men, set themselves about acquiring a knowledge of medicine, having a tolerably correct notion of the great labor undertaken, and having anything like a just appreciation of the responsibilities which will devolve upon them as practitioners, *they* will have no use for his "Conspectus." *They* will read "*extended* text-books" before attending lectures. They will do more than read them. They will *study* them, and that too so thoroughly that brief references to them in connection with the lectures will suffice to an excellent understanding of the subjects taught. With books, in the lecture room, in the laboratory, in the dissecting room, about the amphitheatre, and in the wards of hospitals, *they* will strive to command all the resources of science and art for the relief of human suffering. Not so with the dullards. They will neither read nor think nor work to any purpose. *They* will buy a "Vade-Mecum" or a "Hand-Book" or a "Compendium" or a "Conspectus" and systematically *cram*,—*cram* so as to be able to answer a few questions, parrot-like, "pass" the dreaded ordeal of a final examination, and earn (?) diplomas. And if they are not altogether graceless scamps, they will thank their friend for making as good a book

of its kind as has ever been printed. They will be very grateful to him for his endeavors to place within the easy grasp of their dull intellects a knowledge of the science and art of medicine. They will bless HARTSHORNE and his "Conspectus." Of course Dr. HARTSHORNE will neither expect nor receive from those who foster the best interests of the medical Profession any thanks for his last performance in book-making.

J. M. L.

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*PENNSYLVANIA HOSPITAL REPORTS.* Vol. II.—1869. Philadelphia: Lindsay and Blakiston. 8vo., pp. 320. Price (to subscribers) \$4.00.

The second volume of the Pennsylvania Hospital Reports,—edited by Drs. DACOSTA and HUNT, and dedicated to Dr. GEORGE B. WOOD, who has for many years stood at the head of the medical staff of the Hospital,—deserves to be received by the profession with the same favor as the first. It contains 23 articles illustrated by 3 lithographs and 16 wood cuts. The first article, by Dr. HEWSON, gives conclusions from an interesting statistical inquiry into the influence of the weather over the results of surgical operations, "from which it would seem that we got a mortality when operations were performed with the barometer ascending, of not quite 11 (10.7) per cent.; of over 20 (20.6) per cent. with it stationary; and over 28 (28.4) per cent with it descending . . . . One can certainly rely on the barometer to guide him in the choice of occasions for doing operations when he has the power to choose, or in the prognosis of the results in cases where he is deprived of such option."

Dr. MORTON's statistical account of cases of urinary calculi operated on in the hospital since 1756 (112 years), gives results not too flattering; the number of operations for this long series of years is small. Of 111 cases of lithotomy, 18 died; of 14 cases of lithotrity, 2 died.

Dr. DACOSTA, in the next article, reports favorable results from bromide of ammonium in the treatment of acute rheumatism. Dr. HUTCHINSON relates an interesting case of intracranial aneurism, with remarks, and a table and analysis of 33 collected cases. Dr. EDWARD HARTSHORNE institutes a "review of the treatment of oblique fracture of the clavicle, including remarks on the application, with support of the adjoining limb, of pressure to the lower angle or blade of the scapula, as the ruling indication;

also the suggestion, for this purpose, of new forms of apparatus ;"—a very able and fascinating exposition of "the really noble functions of the bony shoulder-socket" and "its aberrations under the disturbing influence of fracture or dislocation."

Dr. JOHN ASHHURST, JR., relates, as he believes, "the first successful case of hip-joint excision which has ever occurred in Philadelphia," and makes it the basis of a paper on the subject, to which is appended a tabular view of 242 cases of excision of the hip-joint. Dr. W. HUNT communicates a case of chorea, which became fatal from an aggravation caused by a simple fracture of the humerus ;—a case of great interest from its rarity.

We have but commenced our review of the rich contents of the volume before us, and are only deterred from continuing it by the narrow limits to which we must confine a bibliographical notice. But it will suffice to show the high value of this publication, and to justify our hope that it will receive generous support from the profession.

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*PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION* at the Sixteenth Annual Meeting, held at Philadelphia, Sept., 1868. Philadelphia, 1869. 8vo, pp. 506.

The American Pharmaceutical Association, (whose high position and favorable influence upon the professional character and bearing of the members of its craft should secure it a far greater degree of interest on the part of physicians than we are wont to see manifested,) publishes an annual volume of transactions which appears to us to be of more importance, comparatively, in its line, than the volume issued by its medical counterpart, the American Medical Association,—with all due respect to the latter, be it said. It contains the best products of the best minds, and a large proportion of the aggregate mental production, of the pharmaceutical profession of this country, which cannot, *mutatis mutandis*, be asserted of the transactions of the Medical Association. The papers in the present volume more especially valuable, in a scientific point of view, are the extended report on the progress of pharmacy, by Mr. C. LEWIS DIEHL, of Louisville, Chairman of the Committee, the numerous special reports in answer to queries proposed, and the volunteer reports and essays by various members, some of which would (or should) interest

the medical practitioner as much as the pharmacist. It would carry us outside of the sphere of this journal to analyze these papers. Some other parts of this volume, however, more directly draw the attention of the physician; we refer to those dealing with the relations of the physician to the pharmacist ("Discussion on the renewal of prescriptions," etc.), and the report of the committee on legislation regulating the practice of pharmacy.

The discussion called forth by the resolutions of the East River Medical Association of New York (which requested the Pharm. Assoc. to take some action tending to prevent apothecaries from renewing prescriptions without an order from the physician), is very interesting, and the views presented by members are in the main judicious, though some extremely injudicious things were said,—so much so that the name of one of the participants is charitably screened behind the appellation of "a member." The discussion sets forth the impracticability of restricting the pharmacist to a single dispensing, though most members recommend him to discourage the practice of renewal; and nearly all members assert that the prescription, once dispensed, is the property of the pharmacist. Agreeing to the latter proposition, we must yet protest against the former opinion. No prescription is ever written to be used twice; if the same medicine in any case be repeated, it should be according to the judgment of the physician at the time of the repetition. The two questions, as to ownership and renewal, are entirely distinct. We must add, that the resolutions adopted in answer to those of the East River Medical Association do not enunciate, either distinctly or politely, the views expressed in the discussion.

The committee on legislation has studied the laws of the different States relating to the competency and qualifications of pharmacists, (and physicians, in some cases,) and brings to light the not very unexpected result that such laws are few in number, inefficient, and in no instance of any practical use; they are dead letters. The inquiry into the existing legislation on "counter practice," on selling patent medicines, spirituous liquors, poisons, etc., has no better result. The committee warn against disconnected local legislation, deeming it necessary to present the same well-matured law to the Legislatures of the different States simultaneously; they "feel sure that their plans

will be heartily seconded by the medical profession," and that the combined efforts of the two will ultimately be successful. Nevertheless, the Association struck out a resolution aiming at the co-operation of the Amer. Medical Assoc. Finally, it was resolved "to appoint a committee to draft a law regulating the entire practice of pharmacy, to be presented to the Legislatures of the different States and Territories for their adoption."

*A HISTORY OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF PENNSYLVANIA*, from its foundation in 1795, with illustrative sketches of Deceased Professors, etc., etc. By JOSEPH CARSON, M.D., Professor of Materia Medica and Pharmacy. Philad.: Lindsay & Blakiston, 1869. 8vo., pp. 220. Price, \$3.00.

The author tells us "The work has occupied much time in its preparation, and entailed a large amount of labor, ample recompense for which will be received should it subserve the design for which it has been written—namely, to communicate to his fellow-alumni all the information he has been able to gather with respect to the history of their alma mater." Graduates of the University of Pennsylvania will be grateful to Dr. CARSON for his clear exposition of the circumstances connected with the rise and progress of this school of medicine, and his succinct account of the lives and labors of the illustrious members of the profession whose reputation is inseparably connected with it. Lovers of the science and art of medicine will find in this volume much that is curious and entertaining, while from the contemplation of the struggles and achievements of those who earliest practiced and taught the healing art in this country, they may gather fresh inspiration, and with renewed zeal devote themselves to the alleviation of human suffering and the diffusion of useful knowledge.

J. M. L.

*ESSENTIALS OF THE PRINCIPLES AND PRACTICE OF MEDICINE*. A Handbook for Students and Practitioners. By HENRY HARTSHORNE, M.D., Professor of Hygiene in the Univ. of Pennsylvania, etc., etc. Second edition, revised and improved. Philadelphia: Henry C. Lea, 1869. 12mo., pp. 452. Price, \$2 38.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

This second edition affords little cause to alter the (in general) favorable opinion of this book expressed in the notice of the



first edition (Vol. IV, N. S., 1867, p. 460). It need scarcely be stated that so diligent a compiler as the author has found fresh material to compress into the narrow limits of his pages, notwithstanding the rapidity with which the sale of the first edition has been effected. The new chapter on the sphygmograph is an excellent illustration of his skill in extracting "essentials." The increase in the number of pages (by 35) is not, however, due altogether to additions, but rather to a trifling change in the type.

By some very slight alterations of phraseology, the author acknowledges the friendly criticisms of our former notice; but real emendations have not been made in the paragraphs criticized. The entire section on general pathology meets our most hearty disapproval; and we regret this the more, because the practical part of the work is so eminently calculated to satisfy reasonable demands,—a statement in which all will concur, who grant the practical value of a medical primer. G. B.

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*A TREATISE ON THE DISEASES OF INFANCY AND CHILDHOOD.* By J. LEWIS SMITH, M.D., Curator to the Nursery and Child's Hospital, New York; Physician to the Infants' Hospital, Ward's Island; etc. Philadelphia: Henry C. Lea, 1869. 8vo., pp. 620. Price, cloth \$4 75. leather \$5 75.

[For sale by Frary, Cowan & Krath, 219 North Fifth Street.]

After an examination of this book, we think we are not mistaken in welcoming its writer as a new authority in medical literature on the Diseases of Children. The sources of his information are copious, and he seems to have made careful use of them. He does not strive after novelty, but laboriously studying the medical authors who have gone before him, as there is frequent evidence in his pages, he has recourse to matter-of-fact observation and collocation of cases for his own conclusions. Recent advances in medical science have been considered in forming his views, and that large class of practitioners, who have been led to believe in the more sparing administration of medicine of later days, will find pleasure in reading his treatment.

We had intended to support these opinions by quotations, but the range of the work is so comprehensive, and our readers can so much better form a notion of the industry and good judgment

of its author by an extended perusal of it, that we have concluded to simply refer them to the book itself, and will only add that it is written in the clear and unambitious style befitting a scientific work.

C. E. B.

*A PRACTICAL TREATISE ON DISEASES OF WOMEN.* By T. GAILLARD THOMAS. M.D., Prof. of Obstetrics and the Diseases of Women and Children in the College of Physicians and Surgeons, New York; Physician to Bellevue Hospital, &c., &c. Second edition, revised and improved. Philadelphia: Henry C. Lea. 1869. With 225 ill. 8vo., pp. 647. Price, cloth, \$5.00, leather, \$6.00.

[For sale by the St. Louis Book and News Co.]

This comes quite unexpected. Within less than a year, a second edition of Dr. THOMAS' treatise has been called for, notwithstanding the competition of such excellent works as those of WEST, GRAILEY HEWITT, *et al.* It seems, then, that the medical reading public has practically sustained the favorable opinions of the press. We regard this treatise as the one best adapted to serve as a text-book on gynæcology.

The additions embodied in the new edition are more extensive than the authors' modest preface led us to expect. Several new wood cuts are introduced, illustrating Dr. MONTROSE A. PALLÉN's modification of the SIMS speculum, STOHLMANN's needle for operations of vesico-vaginal fistula, BATCHELLER's skirt supporter, a uterine repositor for retroversion, and a trocar and canula for draining ovarian cysts through the abdomen. Among the more important additions are paragraphs on uretero-uterine and uretero-vaginal fistula:—nearly four pages on the pathology of uterine inflammations (in which the author, among other things, mentions the "revelations" on the inflammatory process of COHNHEIM),—extended remarks on inefficient or inappropriate therapeutics and inattention to general management and hygiene in the treatment of inflammations of the womb;—on a pessary for anteversion;—absence of the ovaries;—on the drainage of ovarian cysts; etc. Moreover, there are added the statistics, collected by Dr. ALFRED MEADOWS, "with reference to the etiology and relative frequency of the various forms of displacement;" and the collection of cases of removal of the inverted uterus from SCANZONI's *Beiträge zur Geburtskunde und Gynæcologie*.

The book concludes with an entirely new chapter on Chlorosis, which the author considers as a disease of the nervous system, which usually, but not always, induces anæmia. His treatment is in accordance with this view: tonic treatment by hygienic, more especially psychical means, and by "nervous tonics of medicinal kind," such as arsenic, strychnine, and quinine; secondarily, "as anæmia is usually a complication of the disease, iron is generally indicated."

These are the more important improvements of the new edition as compared with the first, for an account of which we refer to the review in Vol. V. N. S. (1868), p 336, of this Journal.

Before dismissing this book we will call attention to the odd perversion of the word "cancroid," on page 418, which the author employs as a collective term for the fibro-plastic and recurrent fibroid tumors, occupying the debatable ground between cancer and fibrous tumors. We know of no author preceding THOMAS, who has not made cancrroid synonymous with epithelioma. Dr. THOMAS assigns no reason for this curious innovation.

G. B.

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*TREATISE ON THE DISEASES OF THE EAR, INCLUDING THE ANATOMY OF THE ORGAN.* By ANTON VON TRÖLTSCH, M.D., Professor in the University of Würzburg, Bavaria. Translated and edited by D. B. ST. JOHN ROOSA, M.D. New York: William Wood & Co. 1869. 8vo., pp. 566. Price \$4.50, leather \$5.50.

[For sale by Peter Smith, Bookseller, No. 821 North Fourth Street, St. Louis.]

A new edition, from the last (fourth) German, with the addition of chapters on the Anatomy of the Ear from another work by the same author. It is, in fact, a consolidation of the two books, ably edited and annotated by the translator, who has added many valuable references to and extracts from other authors, together with numerous illustrative cases from his own practice. Unlike too many American editions, so called, of foreign medical works, the present volume bears the evidence of careful editorial supervision, and coming, as it does, from one who is himself an eminent aural surgeon, the additions of new matter and the independent expression of opinions by the editor greatly enhance the value of the work, and should make it sought even in the land of the author.

In the present edition the subject is treated in thirty-one lectures. These may be grouped under three heads corresponding

to three principal divisions of the subject:—(1) the anatomy and diseases of the external ear, including the membrana tympani; (2) the anatomy and diseases of the middle ear and its appendages, the mastoid cells and the eustachian tube; and (3) the anatomy and diseases of the internal ear. Throughout the book this natural division of the subject is kept constantly in view, and the very distinct character of the diseases of each of the three regions, and of the methods of diagnosis and treatment, is everywhere clearly set forth. The importance of this anatomical or regional basis of classification is evident, when we recall the fact that the external meatus and membrane of the tympanum are covered by true skin, which forms a continuous layer with the external integument of the body, and so, in the study of the diseases of this region, we are to look mainly for pathological processes analogous to those observed in cutaneous affections elsewhere. So, also, the tympanic space, with the mastoid cells and eustachian tube, form a continuous mucous cavity communicating with the fauces, and the affections of these parts are essentially those of mucous membrane. Hence the term *aural catarrh* is used by the author only in connection with affections of the middle ear.

The author's nomenclature of the inflammatory affections of the ear is briefly as follows:

1. Furuncles in the auditory canal, or circumscribed inflammation.
2. Otitis externa, or diffuse inflammation. This he describes under two forms, the acute and chronic.
3. Myringitis, or inflammation of the membrana tympani.
4. Aural catarrh, or mucous catarrh of the middle ear.
5. Otitis interna, or purulent catarrh of the middle ear.
6. Otitis, or general inflammation of the various parts of the ear, including especially cases of extensive suppurative disease which has gone beyond the limits of the part in which it originated.
7. Nervous deafness, tinnitus, otalgia.

We consider ROOSA's edition of VON TRÖLTSCHE as by far the best hand-book on the ear and its diseases in the language. It is eminently scientific in its classification, clear and simple in arrangement, and thoroughly practical. It is alike necessary to the specialist and the general practitioner of medicine; especially

will the latter find it a safe and sufficient guide to the intelligent study and successful treatment of aural diseases.

We have a serious charge to bring against the publishers for printing it in an unusually large type (pica), and so unnecessarily increasing the size and cost of a book which ought to have the widest possible circulation. The adoption of *small pica* (the type used in our *original communications*), would have lessened the size of the volume over a hundred pages, while *bourgeois*, used by the same publishers in their edition of STELLWAG on the *Eye*, would have reduced the book to half its present dimensions.

J. G.

*ON LONG, SHORT, AND WEAK SIGHT, AND THEIR TREATMENT BY THE SCIENTIFIC USE OF SPECTACLES.* By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London. 3d edition. Philadelphia: Lindsay & Blakiston. 1869. 8vo., pp. 248.

[For sale by the St. Louis Book and News Co.]

This is an English book, elegantly printed in London, on fine tinted paper, and offered at a price high enough to afford some profit to the author and to the London publisher from copies sold in this country, and yet low enough to enable it to hold its own against any attempt at competition in the usual form of a careless American reprint.

Mr. WELLS has aimed to produce a book embracing the modern theories of refraction and accommodation, and yet simple enough to be read with profit by the great body of general practitioners and students of medicine. The demand for such works in England must be considerable, in view of the great number of recent attempts to adapt the grand discoveries of HELMHOLTZ and DONDERS to the comprehension of readers untrained in the first principles of optics, and we doubt not that the two editions of the present book already sold have done much good in awakening an interest in the new science, as we are now entitled to call it, of Ophthalmology.

The general scope of the book is suggestive of lectures prepared for delivery before a medical class, and we venture the suggestion that it has already done good service in the form of oral teaching. Nor is it on this account the less suited to the wants of a very large class of readers, for upon this subject the

needs of the student and of the profession at large are nearly or quite identical. We have, therefore, to congratulate Mr. Wells upon his success in producing a book which, while it contains little that is new, either in the matter or in the manner of presenting the subject, is still a truthful reflection of the teachings of the founders and acknowledged leaders of the great German school of Ophthalmology.

J. G.

## Extracts from Current Medical Literature.

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### OBSTETRICS—DISEASES OF WOMEN.

1. *On the Direction of the Uterus in the Adult.* By Prof. PANAS, Surgeon to the Hôpital Saint-Louis, Paris.

[*Archives gén. de Médecine*, Mars 1869, p. 274.]

The important question in gynæcology, how much value is to be attached to this or that deviation of the womb, still being subject to great diversity of opinion, induced the author to institute the clinical researches the results of which are recorded in this paper. He begins by stating what he means by "perfect straightness" of the uterus. The body and the neck of the organ never form a straight line. The axis of the body is represented by a line perpendicular to the plane of the superior strait of the pelvis (from the umbilicus to the concavity of the sacrum), that of the neck follows the axis of the lesser pelvis, and forms with the body of the uterus a slight angle open anteriorly. This angle is such that, in the absence of anteversion, the exploring finger will not touch the anterior surface of the body of the womb.

The conclusions at which the author arrives from his statistical researches, do not materially differ from the results obtained by ARAN. They are as follows:

1. Antelexion in different degrees is a physiological condition of the uterus in almost half the cases.
2. The uterus not bent, that is to say, quite perpendicular to the plane of the inferior (?) strait of the pelvis, erroneously considered as the only physiological state, does not occur in more than one-third of the cases.
3. Of all the changes of position or direction of the womb, those backward—retroversions and retroflexions—are the least frequent, and consequently have a greater pathological significance.
4. Very probably the uterus tends to straighten with growth, beginning from the age of puberty.

5. Very early menstruation coincides with flexions, whereas very tardy menstruation is met with when the organ is straight.

6. Generally speaking, the catamenia appear more irregularly in cases of extreme deviations, than when the uterus is straight.

7. The occupation (in sedentary or erect postures) does not seem to exert any influence on the direction of the uterus.

8. Those flexions and inclinations of the uterus which may be called physiological have this peculiarity, that in more than half the cases they are not considerable.

2. *Large Fibroid Tumor, arising from the inferior wall of the Urethra, filling the Vagina, etc.* Reported by Dr. H. HÆNING, Assistant Physician to the Gynæcological Clinic at Bonn.

[*Berliner klinische Wochenschrift*, 8. Feb. 1869.]

Marg. D., æt 41, admitted 25. May, 1868. Had never been married; menstruation regular until 3 years ago, when moderate hæmorrhages from the genitals occurred. In May, 1867, a swelling appeared at the introitus vaginæ "of the appearance and properties of an œdema," painless, elastic, not limited, partly crowding forth out of the introitus, causing no difficulty other than a sensation of tension, and occasional retention of urine. The finger could be passed by the tumor to the os uteri, which was normal. The tumor (after rest, laxatives and remedies favoring absorption) is said to have disappeared about October, but returned in a few months, became larger, caused more obstinate retention, and appeared through the vulva. This tumor also disappeared after the same remedies, leaving only a certain hardness at the introitus vaginæ. In January, 1868, the tumor was again considerably enlarged, and caused obstinate retention of urine and fæces. A part of the tumor, which protruded from the vulva, was in May, 1868, ligated and cut off; this portion was of the size of a child's head, weighing two pounds. This was 14 days before admission.

May 25. Present condition. In front of the genitals, there is a tumor of the size of a fist, ulcerated in some places and covered with crusts, feeling soft in some places, almost fluctuating, in others hard. Immediately above the tumor is the clitoris; the mouth of the urethra is found in a slit an inch long at the right side of the tumor. Laterally the widely separated labia minora,



and the hymen, torn in several places, but otherwise normal. The latter is continuous with the tumor and agglutinated to it, so that the vagina can be reached by the exploring finger only posteriorly. Within the vagina a tumor is discovered, which is very much larger than the external one.

May 27. More careful examination under chloroform. The adhesions of the tumor to the hymen are easily separated by the finger, with but slight hæmorrhage. The hand introduced over the posterior commissure is able to grasp the tumor, and establish that the latter has no connection with the uterus. The tumor adheres to the lower wall of the urethra immediately behind the introitus vaginæ. The lateral adhesions having been separated with the fingers, and a few more resistant ones with the knife and scissors, the right hand is introduced into the vagina, made to grasp the club-shaped internal part of the tumor, and extract it. The tumor now hangs by a short pedicle as thick as a finger, which is cut off with scissors. The hæmorrhage from the cut surface was not arrested by repeated applications of the hot iron, and ligation *en masse* became necessary. The urethra, though considerably lengthened, returns to its normal position; the vagina is dilated to a wide sac, extensively ulcerated in its upper portion; uterus normal, but crowded over to the right side; cervix healthy.

The patient recovered; discharged on 8. June. Four months later, the physician previously in attendance reports the patient well; the anterior vaginal wall shows a radiating cicatrix, the rest of the vagina and the uterus normal.

The tumor has an hour-glass shape, the constriction answering to the part which lay in the entrance to the vagina. The inner part is about twice as large as the outer; the whole tumor weighs three pounds. Prof. RINDFLEISCH pronounced it an "œdematous and therefore very soft fibroid, without any suspicious admixture."

[The author refers to three somewhat similar cases reported in medical literature: GREMLER, *Preuss. Vereinszeitung*, 1843, No. 33; SCANZONI, *Lehrb. d. Krankh. d. weibl. Sexualorgane*, 2. Theil, S. 259; OLIVIER, *Gaz. des hôpitaux*, 1862, No. 95.]

3. *Wing-shaped Prolongation of the Posterior Lip of the Os Uteri.* Reported by Dr. H. HOENING, Assist. Phys. Gynæcological Clinic, Bonn.

[*Berlin. klin. Wochensch.*, 8. Feb., 1869.]

The designation of wing-shaped prolongation has been applied by SIMON (*Monatsch. f. Geburtskunde*, xxiii, Heft 4) to a tumor proceeding from the anterior lip of the os. A similar growth of the posterior lip was seen at the gynæcological clinic of Bonn. It did not correspond to the cauliflower excrescence of CLARKE, nor to the hypertrophic elongation of KENNEDY, nor yet to the proboscis of VIRCHOW, but presented the greatest similarity to the tumor described by SIMON.

Mrs. D., æt 49, married for 15 years, had given birth to 7 children in the first 8 years of her marriage, always been well, no anomalies of menstruation. Since her marriage she suffered from a moderate leucorrhœa. A year ago her attention was called to a disease of the genital organs by frequent discharges of blood, increased catarrh, and longer duration of the menses. No pain, but sense of pressure in sacral region, and excoriations on the inner surface of the thighs from the discharge. General condition good; a feeling of weakness, but no emaciation. Moderate, but almost constant, headache. In May 1868 the patient presented herself at the clinic. External inspection disclosed considerable erythema of the vulva and inner surface of thighs, with vesiculation and pustulation. A thick, purulent mucus flows from the vagina. Between the labia a tumor appears, flattened sideways, its sides as well as the inner surfaces of the nymphæ reddened and excoriated by contact and friction. At the orifice of the vagina, the tumor is constricted to form a round neck, which, increasing in thickness upwards, is continuous with the posterior lip of the os tinæ. The other lip is quite normal.

The tumor was removed with the scissors by G.-M.-R. Prof. VEIT, May 13th; the hæmorrhage arrested by the hot iron. The extirpated tumor is 6 3-4 centim. long, 4 1-4 centim. wide at the widest point, the neck is almost 1 ctm. wide, and the oval basis (cut surface?) 1 1-2 ctm. in its largest, 1 ctm. in its smallest diameter. The pedicle is hard, the tumor itself moderately soft, the greater part of it covered with mucous membrane; the whole tumor shows in many places shallow and deep fissures. It consists of connective tissue covered with several layers of flat

epithelium. Towards the surface there are found numerous papillæ and a number of mucous glands lined with cylindrical epithelium. No closed follicles. Nine days after the operation the patient was discharged cured.

4. *An Intra-mural Fibrous Tumor removed from the anterior wall of the Uterus.* By WILLIAM H. BYFORD, A.M., M.D., Professor of Obstetrics, etc., in Chicago Medical College.

[From the *Chicago Medical Examiner*, Jan., 1869.]


Mrs. McC., of Terre Haute, Indiana, is thirty-nine years of age; has been married twenty-one years; has four children, the first nineteen years old, the last eight, and had one miscarriage, twenty years since. Her health has been in every respect good until the last five years. Five years ago, she had severe neuralgic pain in her left side, extending to the hip and down the leg of the same side; from the history, most likely in the sciatic nerve and its branches; for about one month the limb was partially paralyzed. She has since then almost continually been the subject of indigestion, constipation, etc. Eighteen months since, she commenced having profuse discharges of blood from the vagina. These discharges had continued to increase up to the time when Dr. J. B. BUCHTEL was called to see her, on September 22d, 1868; when, according to the description given by Dr. BUCHTEL, she was anæmic to an extreme degree, with œdematous face and extremities, and effusion in the peritoneal cavity. She was almost constantly confined to her bed; had pain in the left iliac region, and down the left leg; was constipated, and vomited a part of her food, and was also much distressed with the digestion of what she retained. Her menses were regular, but profuse; besides this, she had profuse floodings between times, which were controlled only by the most active treatment; sometimes it was necessary to use the tampon. Between the hæmorrhages she had profuse leucorrhœa. An examination made by Dr. BUCHTEL was followed by alarming hæmorrhage. By this examination he discovered the presence of a large fibroid growth in the anterior wall of the uterus.

After a skillful and diligent course of treatment, consisting, for the most part, of tonics and alteratives, with good substantial diet, for about four weeks, Dr. BUCHTEL found his patient able to be brought to Chicago for advice and surgical treatment. October 24th, Mrs. McC.'s health very much improved, but still so feeble that she passed much of the time in bed. She expressed great fear of another paroxysm of hæmorrhage. A careful examination confirmed Dr. BUCHTEL's diagnosis. There was a large, hard tumor imbedded in the anterior wall of the uterus. When the probe was passed into the cavity of that organ, and a catheter in the bladder, their lower extremities crossed each other, while the wide separation of their upper ends showed an intervening substance of about five inches. The lower end of the tumor was about on a level with the arch of the symphysis pubis, and had greatly developed and dis-

tended the anterior wall of the cervical part of the uterus, while the upper could be felt high up towards the umbilicus, a little more to the right than to the left of the linea alba.

The os uteri was soft and dilated, so that one finger would easily enter it. The bladder was crowded up to the symphysis, and the cavity of the uterus very elongated behind the tumor.

I hoped to be able to destroy the vitality of the tumor by coring it after the method practiced by Mr. BAKER BROWN, of London. With a view to an attempt of this kind, I placed the patient on the operating table, on her left side, with her left arm behind her, so that she would lie well over on her left breast, with the knees drawn up, the right bent the most, and drawn forward and over the left on the table. This is SIMS's position for the operation for vesico-vaginal fistula. The introduction of a large sized SIMS speculum brought the lower end of the tumor full in view. After having anæsthetized the patient, in presence of the students of Chicago Medical College, at Mercy Hospital, assisted by Dr. BUCHTEL and some of the senior students, I commenced the operation.

An incision was first made in the most dependent part of the tumor, in the anterior lip of the uterus, which extended transversely from one side of the pelvis to the other, and must have been over three inches long: another, commencing in the center of this, was extended up the posterior surface of the tumor, in the cavity of the uterus, as far as I could guide the scissors by the finger, with the hand partly introduced into the vagina. This last incision must have been more than three inches long, also. The substance cut through was at least a quarter of an inch thick. The two incisions formed a -shaped opening into the cyst containing the tumor. The freedom with which I could separate the walls of the cyst from the tumor encouraged me to attempt the removal of the whole mass, instead of a part of it. For this purpose, I introduced my left hand into the vagina, and my fingers high up into the cyst; and, after some exertion, had the satisfaction to break up the adhesions of the tumor to its envelope over much of its circumference, and well up towards the upper end.

I then seized the mass with a strong vulsel forceps, and made traction upon it in various directions, twisting, with a view to loosen it from its bed, and changing the bearing of the instrument in numerous ways, with apparently but little effect.

After much fatiguing effort, I passed the forceps up the posterior surface of the tumor, and made traction with great force, giving the instrument a swaying motion from side to side. Soon it became evident that the whole tumor was approaching the external orifice of the vagina. Thus I continued passing the forceps higher up from time to time, until, to my great delight, the whole mass engaged in the lower strait of the pelvis, through which it passed, after some resistance. The fingers were then passed up into the cavity of the cyst, in order to ascertain whether there was anything further to be removed. The uterus contracted very decidedly, and became firmer to the touch. I could not detect any other growth by the most careful examination. Not more than two ounces of

blood was lost, and the woman exhibited no signs of exhaustion. No more than forty minutes elapsed from the time the patient was placed completely under the influence of ether until she was carried to her bed. No treatment but rest, and opiates enough to allay pain, was directed. Twenty drops of tincture of opium is all the medicines she required or took. There was no symptom requiring attention, but the patient seemed comfortable and cheerful from the time of the operation, and on the 10th of November she made the journey home. December 1st I received a letter from Dr. BUCHTEL, saying that his patient was "quite well."

The tumor was fibroid, oval in shape, the small end down. It weighed twenty ounces avoirdupois, was five inches and a half long, four inches and three quarters broad, and four and a quarter thick. It was so firm in structure, that the forcible efforts at removal did not mutilate it scarcely at all.

5. *Treatment of Uterine Functional (non-organic) Disturbances.* By JOHN HENRY WEBSTER, M.D., Physician to the Northampton Infirmary.

[*Practitioner*, February, 1869, p. 93.]

... In inquiring into the history of very many seeking advice for relief from excessive uterine discharge, whether hæmorrhagic or leucorrhæal, there will be found to exist a very frequent condition of habitual constipation. This state will occasionally be admitted, but oftener denied by the patient, who may assert that there is daily relief, but which, upon closer examination and inspection by the medical adviser, will be found but partial, inefficient, and only obtained by much straining effort. Whilst the sigmoid flexure and rectum remain distended, or even the dejections continue formed and solid, I have found styptic and hæmostatic remedies to fail in restraining the sanguineous flux. On the contrary I have in multitudes of instances found such discharges, and even leucorrhæal ones, of long persistence, slowly diminish, abate, and entirely stop under the use of mild laxative aperients continued during a few days, producing soft evacuations twice only in the twenty-four hours, without having had recourse to any styptic agents whatever.

This is of such frequent occurrence that I now systematically enjoin a patient suffering from simple uterine discharges, and admitting to a confined or partially costive state of the bowels, to have them relieved every twelve hours by this or that aperient for the ensuing week, at the expiration of which time I am in many instances forced to the inference that "ablatâ causâ tollitur morbus."

The indifference to, and neglect of, a natural aperient of the bowels with females, especially the adolescent, is notorious; and that it is a primary cause of much irregularity in the uterine functions from the mechanical pressure upward on the uterus and left ovary, with an obstructed circulation in the pelvis, the mutual relation of the parts will readily explain. This, coupled with the weight of a distended bladder from above, must be a source of irritation, especially during the turgid

state of the organs at the monthly periods. It is not to be wondered at, if thence a disposition to excessive show or menorrhagia appears, and which, if perpetuated time after time, may induce a metrorrhagic discharge upon the subsidence of the true menstrual flux. Presuming that the irritation is not such as to cause excessive sanguineous loss, yet it may, and I believe most frequently does, lead to a chronic congestion of the womb, with the abrasions or ulcerations of the os and cervix, with constant and abnormal leucorrhœal discharges, affording thereby a daily relief to parietal engorgement. . .

In the treatment of these maladies, whilst advocating gentle and regular aperient, I would strongly reprobate purgation and doses of remedies having any such tendency.

Every tonic and styptic drug in the Pharmacopœia has at one time or other been recommended by eminent practitioners; and the evil influences of attendant constipation being well recognized, it is the usual practice to supplement the treatment by some active aperient every alternate day.

I can not agree with this advice, thinking that the active aperient, only occasionally given, temporarily increases the malady, and think it more advisable to combine with the favorite styptic or tonic remedy some gentle aperient, which by feeble though continuous action, may induce twice daily *pultaceous dejections*, but no more.

A great many cases of functional uterine derangements annually come under my care, and I class them into two divisions: the first including those between the period of early womanhood, and the second or third pregnancy; the other including those of more advanced age, with possibly many pregnancies.

Of the first class I find a very large percentage recover perfectly under the use of gentle aperients, with cold sponging of the genitalia night and morning, without the use of any other remedies; a few, however, do require some tonic stimulant or styptic treatment, as by bark, ammonia, alum, sulphuric acid, or tannin: and with a few others of strong sexual and ungratified inclinations, a free exhibition of the bromide of potassium.

In the other class, however, with whom the derangements (by lapse of time become a constitutional habit) or frequent pregnancies have induced a flabby or congested condition of the uterine parietes, with thickening and ulcerations of the os and cervix, or with a vascular villous state of the internal mucous membrane (endo-metritis), gentle aperient of the bowels is only a necessary auxiliary to other treatment by ergot, hæmodynamic astringents combined with ammonia and diffusible stimulants, opiate suppositories (pil. saponis comp. gr. v.) night and morning after the second day of the catamenia, or under acute sacral pains, and local applications of nitrate of silver, or perchloride of iron, with injections of the latter, and systematic cold spongings; but the daily regularity of the bowels must be maintained.

The anæmiated condition to which patients suffering for a length of time from these uterine derangements are oftentimes reduced, suggests the internal exhibition of chalybeates. The blood has manifestly become impoverished, the red corpuscle has diminished, and it is not an illegiti-

mate inference that the astringency of the iron may, while it strengthens the system, diminish the sanguineous discharge. However useful in hæmoptysis, hæmaturia, albuminuria, purpura, and other sanguineous or serious effusions, my experience leads me to the conclusion that in uterine hæmorrhages, chalybeates internally administered have notably been followed by an increased sanguineous discharge; even simple leucorrhœas have been aggravated. Most efficacious as are the various preparations of iron in the anæmia of chlorosis and amenorrhœa, enriching the blood and strengthening the circulation, especially the uterine, the anæmia resulting from a preternatural diversion of blood to, and escape from, the uterine surfaces calls for different treatment.

So satisfied am I by a multitude of observations of the truth of the above, that, much as it seems called for, I abjure the use of iron in these cases, trusting, after the cessation of the loss, to the building up again the health and strength of the patient by vegetable tonics and stimulants, and improving the digestive function.

It will be inferred that aloes and its preparations find no favor with me in these affections, specific as I believe its action upon the lower bowels, and so far of service in removing this frequent predisposing cause.

6. *Case of Retroversion of the Gravid Uterus, Replaced by the Introduction of the Colpeurynter into the Rectum.* By Dr. J. GOODMAN, Louisville, Ky., (Communicated by Prof. HENRY MILLER.)

[*Amer. Journal Med. Sc.*, October 1868, p. 426.]

The subject of this case was a healthy, robust woman, thirty-two years of age, the mother of six children. All her former pregnancies had been natural and her labors easy. Two weeks prior to being seen by us, she was suddenly seized, while asleep at night, with a severe pain in the abdomen, accompanied by a sensation of weight and bearing down, and upon endeavoring to pass water, found that she was unable to do so. These symptoms continuing, the next morning she sent for her usual medical attendant, who drew off her urine and allayed the pain with opiates. After several days, no improvement being manifest, a consultation was held and an examination instituted, resulting in a diagnosis of ovarian cyst prolapsed into Douglas' *cul-de-sac*, for the relief of which, tapping through the rectum was determined upon. The patient, however, being averse to an operation, delay ensued, and finally refusing positively to submit to it, she was given up by her physicians.

It was at this juncture, thirteen days after the trouble originated, that the patient was seen by Prof. Henry Miller and myself. She was suffering greatly from distension of the bladder, and upon introducing a catheter upwards of six pints of dark-colored, ammoniacal urine was evacuated. An examination *per vaginam* discovered the os uteri high up above the symphysis pubis, while posteriorly, between the vagina and rectum, there was a large, rounded tumor, the continuity of which with the os and cervix was easily traceable. The aspect of the case, so far, impressed

us with the idea that it was one of retroversion of the gravid uterus, and upon inquiry, we found that the patient believed herself to be four months advanced in pregnancy, it having been about that length of time since she last menstruated. The diagnosis being thus confirmed, we determined, in the first place, to give the organ an opportunity to resume its natural position by unloading the bowels with an aperient and keeping the bladder empty. This was persisted in for four days, when, no change having taken place, an unsuccessful attempt at reposition was made. It was now evident that more energetic measures were necessary for the patient's relief. Accordingly, on the following day she was brought under the influence of chloroform, and being placed on her back near the edge of the bed, Prof. Miller endeavored by means of the hand, introduced into the rectum, to elevate the fundus above the brim of the pelvis; after a persistent effort, however, in which as much force was used as was deemed compatible with the integrity of the parts—sufficient, in fact, to lacerate the mucous membrane of the rectum and cause slight hæmorrhage—he only succeeded in dislodging the fundus to some extent, and rendering it more moveable. A medium sized colpeurynter was then introduced into the rectum and distended with air; this produced violent expulsive efforts, to allay which it was found necessary to administer an opiate, but tolerance of the foreign body being at length acquired, the patient was left in a moderately comfortable condition. Upon returning in about six hours, I was delighted to find that everything we had hoped for from the colpeurynter had been accomplished. The fundus uteri had gone up and was now easily felt above the symphysis pubis, and the os was in its normal position within easy reach of the finger. The patient declared herself entirely relieved, and as soon as the colpeurynter was removed, voided her urine without the slightest difficulty. In a few days afterwards foetal movements became manifest, and since then (two months ago) pregnancy has progressed naturally.

The interesting features in this case are—First, the occurrence of the accident without any assignable cause, coming on as it did, while the patient was quietly asleep, having passed her water only two hours previously upon going to bed. Secondly, the serious mistake in diagnosis made by physicians of considerable experience, which came very near leading to the performance of an useless and hazardous surgical operation. And thirdly, the conjoint use of taxis and the colpeurynter *per anum*; a procedure I would strongly recommend, particularly in cases of sufficient standing for partial impaction to have taken place. The taxis being premised with a view of disengaging the fundus and slightly elevating it so as to procure a lodgment for the colpeurynter immediately beneath.

#### 7. *On Labor in Contracted Pelvis.* By Prof. SPIEGELBERG.

[*Brit. and For. M.-C. Review*, Jan. 1869; from Report of Breslau Lying-in Institution in *Monatsch f. Geburtsh.*, Oct. 1868.]

Taking the rule of LITZMANN that a pelvis measuring 3.50" and under is a contracted pelvis, Dr. SPIEGELBERG found 83 labors with narrow



pelvis in 597. This very large proportion, 13.9 per cent., is explained by the poverty of the lower classes in and near Breslau, and the custom of too early resort to hard work. The greater number of the narrow pelvises were simply contracted in the conjugate diameter, the so-called simply flat and rickety pelvis: but more advanced forms of rickety pelvis presented themselves, two being uniformly contracted, and there were two exquisite cases of obliquely-contracted pelvis.

The 79 ordinary cases are subdivided in groups: The 1st with a conjugate under 3.0"; 11 labors. In 9 aid was required; 2 were delivered by premature induction of labor; 3 were delivered by turning; in one of these the head had to be perforated; 1 was delivered by forceps, 3 by perforation; 2 of the mothers died; 4 children were born alive. 2nd group: conjugate 3.00" to 3.25"; 45 labors. In 31 cases labor was spontaneous; 27 children living; 4 were delivered by turning, 7 by forceps, 3 by perforation; 6 mothers died; 3 children were born alive. 3rd group: conjugate 3.30" to 3.50"; 23 labors. In 20 labor was natural; of these 19 children were alive; 2 were delivered by turning; 1 by forceps. All the mothers were discharged well. The two cases of oblique distortion belonged to contractions of extreme degree. In one premature labor was induced. The child died during birth; the mother died of metro-lymphangitis. The pelvis is preserved. The origin of the deformity was traced to injury of the thigh of the side on which the pelvis was deformed. In third year the patient had suffered a comminuted fracture of the tibia, resulting in a pseudarthrosis and permanent shortening of the right leg. The right iliosacral joint had undergone synostosis; there was atrophy of the os innominatum. The other case, one of coxalgic oblique deformity, was also delivered by premature induction. The child died; the mother recovered.

S. *On Delivery by the Feet in cases of Contracted Pelvis.*  
By Dr. SCHRÖDER, Berlin.

[*Practitioner*, Dec. 1868; from *Monatsch. f. Geburtsk.*, Sept.]

Dr. SCHRÖDER writes on this subject, and takes up a strong position in favor of turning as an *early* expedient in labor, where the pelvis is known to be seriously contracted. He argues that in the early stages of labor, supposing the os to be moderately dilated, the membranes unruptured, and the head not as yet wedged in the pelvic brim, we may be reasonably certain that the operation of turning will not involve serious risk to the mother, much less, indeed, than the risk of a protracted labor. As regards the fœtus, also, he insists that the expulsion of the head is easier when it comes *after* the body than when it comes first. On the other hand, if we leave the case to nature in the early stages, we have only one certain piece of knowledge. We do know that the bony passage is abnormally narrow; and we do not know, nor can we anyhow ascertain at that period, whether the dimensions of the child's head will admit of its being compressed to the unusual degree thus made necessary for its expulsion; nor can we foretell, with the least certainty, whether the

expulsive power of the uterus will prove equal to the required effort. It may well happen, then, that the only result of our waiting will be that the head may become fixed in the pelvis with a firmness that will make it impossible for the uterus to expel it, especially with the increasing exhaustion of its forces, and under circumstances in which no method of artificial extraction can be practiced with hope of success, without the previous performance of craniotomy; to say nothing of the danger that fetal life may be sacrificed by prolonged pressure on the cord, or by the excessive contraction of the uterus after the waters have broken, preventing the due oxygenation of the placenta by impeding uterine circulation. He allows that we cannot establish more than a general rule, to which it is possible to find exceptions in individual cases, especially in instances where the subject of a narrow pelvis has been known to have borne living children at full time previously. As a general rule, however, in cases where pelvic narrowing is known to exist, and especially where the woman is a primipara, he argues strongly against waiting till the membranes have ruptured. If the accoucheur, however, chooses to await this event, and then immediately afterwards observes with care what degree of effect the pains produce in the progress of the child, he may yet be in time to effect turning without serious difficulty, in case he judges the uterus to be incapable of pushing the fetus through the narrowed opening with a rapidity which will ensure safety.

9. *Asphyxia Neonatorum treated by Catheterization of the Air-Passages.* By Dr. BILLMANN, Neustadt.

[*Boston M. & S. Journ.*; from *Amer. Jour. of Obst., and Aerztl. Intelligenzblatt*, No. 40, 1867.]

It is known that the catheterization of the air-passages in asphyxia neonatorum is especially recommended, as it removes foreign substances inspired with the first respiratory attempt, the entrance of which into the trachea and bronchi prevents the proper performance of the respiratory act. Dr. Billmann, of Neustadt, reports a case of intense asphyxia in which he used immediately the catheter, without first employing those means usually recommended in such cases, such as cutaneous irritation, baths, compression of the abdominal walls, etc. He introduced a thin male catheter into the larynx of the child and inspired strongly. With a bubbling noise, a thick, viscid, and somewhat bloody mucus was drawn into the opening of the instrument, followed immediately by a short, deep inspiration. Already after four or five repetitions of this method, the respiration became gradually regular, and the child cried, yet a loud rattling still continued. This rattling disappeared each time after the removal of the mucus by means of the aspiration with the catheter, but it returned after a few aspirations of the child, additional quantities of mucus coming up from the minuter to the larger bronchi. After the catheter had thus been employed for some time, the breathing became perfectly regular and easy.

MATERIA MEDICA AND THERAPEUTICS.

1. *On Antiphlogistics*. ("On the use of aconite as an antiphlogistic.") By SAMUEL WILKS, M.D., London.

[*Practitioner*, December 1868, p. 331.]

Introductory to an article in which he urges the employment of aconite in certain inflammatory affections, Dr. WILKS gives his ideas on the mode of action of antiphlogistics, as follows :

. . . There are some persons, however, who believe that our most potent remedies are to be found in those drugs whose direct action is on the nervous system ; and certainly medicines like opium and digitalis are to be reckoned amongst the most remarkable constituents of our Pharmacopœia. It is, therefore, in the direction of neuro-pathology that the best advances are now expected to be made in therapeutics. Physiologists have, of late years, given more special attention to the action of the sympathetic nerve on the blood-vessels ; we were formerly content to believe that their sole duty was to rule over the viscera, but experiments prove that, as vaso-motor nerves, they control the blood supply through the arteries of the body, and thus directly affect nutrition. Dilatation of the vessels, and increased temperature, or diminution of temperature, with final atrophy, are now well known to result from experiments made on these nerves. There is thus opened up a new field of inquiry, both in pathology and therapeutics, since the morbid condition of so many organs and tissues may be dependent on an increased supply of blood on the one hand, or a diminished supply on the other.

For example, as in many nervous affections, an exalted or depressed function of the brain or spinal cord might be supposed to be dependent on an increased or diminished blood supply ; so those agents which would act on the nerves to influence the vessels, either to contract or dilate them, would be the correct remedies : thus the reason which some practitioners give for the use of belladonna and strychnine. With the same object in view, the theory has suggested to some even a simpler method, and they have thought that, in the application of heat and cold, they could control the blood supply to the various organs, and by these simple agents be in possession of an almost universal remedy for disease. Experience is showing that these are valuable agents, even if they have not fulfilled all the objects which were expected from their use. Hitherto the best remedies have been those which time has proved to be beneficial, and which came into use regardless of any *à priori* consideration as to their *modus operandi*. Amongst the medicines which have a marked and decided control over nervous action, the most striking are opium, quinine, aconite, digitalis, etc. All these have, under peculiar circumstances, a marked effect in controlling inflammatory processes, and the accompanying febrile action.

In a part of the body which is inflamed the blood-vessels are dilated,

but whether this condition is to be regarded as the first stage, or simply as a necessary accompaniment to increased cell growth, according to Virchow, does not much concern the argument therapeutically, since, as a matter of fact, a remedy which acts on the vessels to their contraction, tends to arrest the inflammatory process. Thus the application of nitrate of silver to the eye in conjunctivitis, or to the skin in crsipelas, will contract the vessels and allay the inflammation; also the strapping of a joint or testis will effect the same in a mechanical manner. I suppose it must be admitted that, if an internal remedy could act on the vessels of the conjunctiva in the same way as a local one, to arrest the inflammation, it would be deserving of the name antiphlogistic; and if so, the administration of iron, now a very favorite remedy for crsipelas, if it act by constringing the vessels must be entitled to the same name. At present, I believe, the usual explanation of its beneficial action is, that it improves the condition of the morbid blood.

There would then appear nothing remarkable in the idea of an anti-phlogistic remedy, or one that should so act on the nerves, and through them on the blood-vessels, as to actually arrest an inflammatory process. If we remember the remarkable effects which result from the administration of quinine in some febrile disorders, we are led to the conviction that its mode of action must have been in the manner indicated; thus I have as much reason to believe that I have cut short a case of acute rheumatism by this drug, as I have by the use of any of the ordinary remedies. In the same sense, I should say that opium is the most important anti-inflammatory remedy at present known. It never could have maintained its position as a medicine in all forms of inflammation unless this had been its true nature. In various forms of inflammation of the abdomen and chest, it is a remedy almost universally given; and if administered less in affection of the pulmonary mucous membrane, it is only because there is a fear that by lowering the respiratory process it may tend to prevent expectoration; but it is in these very maladies that its effects are most striking. I have seen the case of a child suffering from bronchitis, and supposed to be dying from an over dose of laudanum, who, from time to time, fetched what appeared to be its last breath, during a most anxious period of two or three hours, and then recovered from the effects of the medicine, and, what was most extraordinary, from the disease at the same time. I have seen a somewhat similar case of croup, where there was a narrow escape of poisoning by opium, and a sudden arrest of the symptoms. How a sore throat or bad cold can be at once checked by a Dover's powder, or dose of laudanum, is in every one's experience; as also, how an ulcer on the surface of the body will sometimes rapidly heal under the influence of opium. This well known fact would, it might be thought, have given us a hint as to the controlling power of the drug in nutritive processes. I can not refrain from mentioning a case which came under my own notice, where the remedy saved the patient's life almost as directly as if he had been snatched out of the river when on the verge of drowning. A friend, seventy-five years of age, was knocked down in the street and struck upon the leg;

the skin gave way, ulceration ensued, and in a few days nearly the whole of the limb, from the knee to the ankle, was denuded. He took to his bed, and I visited him to take a final farewell. I found the ulcer still rapidly spreading in all directions, and I was asked to prescribe. I therefore wrote to his medical attendant, stating that, following the footsteps of my old master, Mr. ASTON KEY, I should have ordered in such a case a grain of opium every four hours. This was done, and I heard in a day or two that the old gentleman was better, and when I visited him at the end of another week, I found a most remarkable change had taken place; not only had the ulcerative process stopped, but healing had already commenced. After this, repair went on rapidly, and he was soon able to leave his bed, and continue his out-of-door exercise.

Since, therefore, we see this very evident action of opium on nutritive processes, and as we already know that this drug is of service in various inflammatory processes, we might advance a step further, and infer the possibility of opium being able, in a very large dose, to arrest such a disease as pneumonia at its onset. In speaking of this disease, and some of the usual remedies for it, I am reminded of antimony, which has long had the reputation of being an antiphlogistic. It is one which I still prescribe, and believe that its action is beneficial. It may be supposed, like many other of the metals, to exert a contractile influence over the smaller arteries, and thus, in the same way as lead or iron, tend to arrest hæmorrhage.

2. *On Irritation of the Urinary Organs produced by Santonica and Santonine.*—By E. D. MCDANIEL, A. M., M. D., Camden, Alabama.

[*New Orleans Journal of Medicine*, April, 1869, p. 244.]

The object of this communication is to call attention to an action of santonica and santonine, which does not seem to be generally known. It is an action on the urinary organs, and is, according to my observation, the most regular, uniform, and certain effect, produced by santonica, or its derivative, santonine. There is no difference at all, so far as this action is concerned, between the two remedies, due allowance being made for their difference of strength and concentration. As a general rule, in two or three hours after a first dose of either of them has been given to a child free from fever; and, almost without exception, after a few additional doses have been given at intervals of four, five, or six hours, the urine, if not increased in quantity—which it generally is—is voided with greater frequency and is changed in color. It puts off its ordinary amber color and takes on a deep saffron; it resembles in hue a saturated solution of pure yellow prussiate of potash; it imparts this color to clean white cotton cloths dipped in it, and these cloths retain the color after they become dry. The color is the same as that acquired by santonine after prolonged exposure to sunlight.

After continuing the exhibition of either santonica or santonine, some-

times no longer than above indicated—sometimes longer—in doses of from two to four grains of santonine, or an equivalent of santonica, the urine becomes turbid, *turbid even when first voided*, and symptoms of vesical and nephritic irritation become quite clear. There is frequent and painful desire to void urine, and the discharges are scanty. There is regular dysury. Much the same state of things exist as happens in irritation of cantharides, or from spirits of turpentine, and hæmaturia often ensues.

I have uniformly witnessed the above described series of effects, or a tendency thereto, whenever I have administered the reliable anthelmintic now under consideration; and my rule has been to discontinue the remedy as soon as marked irritation begins to be heralded. The trouble, thereupon, kindly, spontaneously, and gradually subsides, the vesical and nephritic irritation passes away, and the urine puts off its turbidness and yellowness.

The following inferences are respectfully submitted:

1st. Santonine is a stimulating diuretic, and, in this respect, is allied, in therapeutic action, to cantharides and spirits turpentine.

2d. Santonine is an irritant to the urinary organs, and is, in this respect, intermediate, as a toxic agent, between turpentine and cantharides, being far more energetice than the former, and perhaps less so than the latter.

3d. Santonine is anthelmintic and febrifuge, and, in these respects, is allied, therapeutically, to turpentine, spigelia, and chloride of sodium.

4th. Santonine is contra-indicated in active hæmaturia, or a tendency thereto, and in active inflammation of the urinary organs, or a tendency thereto, and indicated in reverse conditions.

### 3. *On Chloride of Potassium as a Substitute for the Bromide of Potassium.*

[*Bull. gén de thérap.*, 15 Février, 1869; from *Mouvement Médical*.]

The well known physiological observations which have caused the action of the bromide to be attributed to the *potassium*, induced Dr. LANDER to inquire into the effects of its other combinations, in the treatment of epilepsy. The chloride, of course, could alone come into consideration; and in fact, the chloride did produce, in epileptic patients, the same effects as the bromide, and thus far no case has been observed in which, the chloride having proved inefficient, the bromide afterwards had any more effect. But the chloride has some peculiar advantages.

It has no disagreeable secondary effects; numerous patients have taken it for months, at a dose of from 5 to 7 1-2 grammes, without ever feeling any perceptible inconvenience.

As the relation of the atomic weights of the two bodies (2 : 3) indicates, smaller doses of the chloride will suffice in order to

administer the same quantity of potassium, than when the bromide is employed.

It is much cheaper than the bromide,—a consideration of importance to asylums which contain a great number of epileptics.

Under these circumstances, and because it may be asked if the bromide, which meets in the stomach with free hydrochloric acid and numerous chlorides, is absorbed as such, the author thinks he can recommend the chloride of potassium for farther experiments.

4. *On Muriate of Ammonia as a Remedy for some Nervous Disorders.* By FRANCIS E. ANSTIE, M.D., F.R.C.P.

[*Practitioner*, December 1868, p. 357.]

It is surprising that in view of the well-known action of liquid ammonia and carbonate of ammonia upon the nervous energy, and in view of the fact that the muriate itself, in large doses, produces fatal convulsions, the latter should not have been more systematically investigated from the side of its effects on the nervous centers and the sympathetic system. For, setting aside, at present, the far from improbable hypothesis that the mucous and glandular phenomena are but secondary to this nervous action, it is certainly the fact that a much wider field of remedial efficacy is afforded by the employment of the muriate, in moderate doses, as a neurotic agent. I purpose to sum up the results of a considerable clinical experience of its employment for the relief (1) of various kinds of pain; and (2) of certain cases of suspended secretion dependent on nervous exhaustion.

1. The anodyne action of muriate of ammonia has not been so neglected as it is for want of empirical observations, by various authors, sufficiently striking to have arrested attention. The practical unfruitfulness of these observations must be laid chiefly to the blame of the mischievous metaphysical conception of pain as a mode of *heightened vital energy*, which rendered it difficult for the popular intelligence to understand the applicability of ammonia—usually considered a stimulant *par excellence*—as an anodyne. So widely prevalent, even now, is this fundamental misconception, that nothing but stubborn facts in large array can break it down. Fortunately, such facts can be produced in any number, and, in the case of muriate of ammonia, they have presented themselves to me in overwhelming force.

A. Foremost in the list of painful affections for which the muriate is useful are the group of disorders now classed under the term *Myalgia*, which was invented by Dr. Inman. The out-patient clinic of a hospital presents an excellent field for the study of these affections, and at Westminster they present themselves in very large numbers. The general type is that of aching pains felt in muscles which are habitually over-

worked in proportion to their nutrition; such pains are naturally commonest in laborious and ill-fed persons. The most exquisite examples are, perhaps, seen in shoemakers and seamstresses, who (often with insufficient food) work many hours a day in cramped positions which keep certain muscles of the trunk in a permanently contracted state. Myalgia of the intercostals, and of the recti abdominales, frequently attacks these persons with great severity. Theoretically, of course, the one all-paramount indication of treatment should be *rest* to the overworn muscles. Practically, this is often impossible, and some other remedy has to be found. I have tried all manner of remedies to this end, and have come to the conclusion that nothing in the whole list of them comes near to muriate of ammonia in efficiency. I give it in doses varying from ten to twenty grains, and can say that not even quinine in ague is a more reliable agent than the muriate in myalgia. Of course it quite fails in a certain percentage of cases; and of course, in a still larger percentage, the hostile influences balk a perfect cure. But the total or partial failure of quinine in intermittents is quite as frequent an occurrence.

B. The neuralgias proper require a special classification in relation to their amenability to the muriate. First on the list, by very much, stand *migraine* (or one-sided headache, ending, if it lasts long enough, in vomiting) and so-called *clavus hystericus*. In estimating the value of any remedy for neuralgias like migraine and clavus, it is necessary to take into account the history of those affections and the place they occupy in pathology. The unfortunate term "sick-headache" popularly applied to the one, and the equally luckless adjective "hysterical" employed in speaking of the other, for a long time fatally confused the subject. They brought about this result, namely, that the pain in the head, in each case, was tacitly considered as merely secondary to some other affection—of the stomach in the one case, of the sexual organs in the other—instead of being recognized as what they certainly are, distinct and primary neuralgias of the fifth cranial nerve, of a kind which belongs *especially to the period of bodily development*. Hence migraine and clavus have, time out of mind, been made the occasion for every description of meddlesome and useless, and often actively mischievous, medication, directed to the removal of a "biliousness," or an imaginary "hysteria." The distinct recognition of these kinds of headache, as the *facial neuralgias of the young*, clears our way towards a frankly neurotic treatment of them; and under these circumstances, in accordance with the principles now coming into general adoption, the following lines of treatment lie before us. There is the improvement of nutrition of the nervous system by various means; an object of special importance in neuralgias which are connected with the period of bodily growth. There is the employment of counter-irritation; a matter which is of less importance in this case than in that of other neuralgias; and finally, there is the employment of a variety of internal remedies which produce visibly direct and rapid effects upon the nervous system.

Among the latter class of agents there is every variety of applicability to the treatment of different neuralgias. Migraine and clavus rank decid-



edly among the milder varieties of neuralgic pain; that is to say, they are not in themselves either so intolerable or incurable as many others. They are distressing enough while they last, but the attacks usually tend to spontaneous termination, or at least great remission by the occurrence of sleep. Of agents which directly affect the nervous system, therefore, it would seem probable that the mildly stimulant class, which tend simply to restore interrupted function to its natural level, would be most suitable to cut short the attacks of such a neuralgia in its commencing stage. Salts of ammonia naturally suggest themselves, as highly *diffusible* stimulants, as likely to effect this purpose. After very numerous trials I have come to the conclusion, that though the preparations of ammonia are generally available, the muriate, in doses of ten to twenty grains, is very much the best; and in fact, if given early enough, seldom fails to cut short or greatly mitigate an attack. I need hardly say that among the out-patients of a hospital numerous hard-worked and delicate young women present themselves, who suffer from one or other of the forms of headache now referred to; and the efficacy of the muriate of ammonia treatment in my practice at Westminster Hospital has now become a fact of which the clinical clerks and students are well aware.

With less remarkable frequency, but still pretty often, I have observed the good effects of muriate of ammonia in *intercostal* neuralgia. I am not now speaking of the very severe and intractable form of that complaint which often attends, and in some cases continues long after, the eruption of herpes zoster; but of the much commoner form which is apt to occur in suckling women, and in some phthisical patients. In suckling women a very painful neuralgia often occurs, the principal site of which is a point or points in one or more of the intercostal spaces, an inch or two below the left nipple. In phthisical patients intercostal neuralgia is also rather common, but is not so limited as to the place of its maximum intensity; for it may occur on either side, and in any of the intercostal spaces. In both these varieties of intercostal neuralgia the use of muriate of ammonia is very frequently of striking benefit, pain being relieved in half an hour. It must be confessed, however, that the remedy is not successful in so large a proportion of the neuralgic, as of the myalgic affections of the chest-wall.

Neuralgias of the lumbo-abdominal nerves are occasionally benefited by the muriate, but only temporarily; in marked contrast with the prompt and permanent relief which this remedy so frequently affords to the myalgic affections of the lumbar and abdominal regions.

In sciatica there is a broad line to be drawn between the cases that may, and cases that may not, be benefited by muriate of ammonia. This medicine is generally applicable, as an anodyne stimulant, to those milder varieties of sciatica which occur in young persons whose health has not been profoundly shattered, and especially in cases that are recent. In such affections the influence of the drug, though nothing like so important and essential a feature in the case as it is in that of myalgia and of many cases of migraine, is decidedly good. But in cases of long standing, and especially in those cruel and inveterate types of the disease

which commence in the later periods of life, and are coincident with a progressive degeneration of the arteries and of the tissues generally, the muriate of ammonia is ineffective. Nor have I found it of any value in the truly *rheumatic* varieties of sciatica, although some authors have especially recommended it in these cases. I have elsewhere stated\* that in truly rheumatic cases I believe the mischief to be of an inflammatory character, and to have its origin and essential seat in the sheath and surroundings of the nerve, which become thickened, and, as it were, hypertrophied. Limiting the title "rheumatic" strictly (and as I believe properly) to such cases, I do not find that the muriate of ammonia has any genuinely beneficial effect upon them; while, on the other hand, the iodide of potassium does appear to be singularly useful; and, indeed, I believe it is only in this kind of neuralgia that the latter remedy can be at all depended upon to produce good results.

Of the effects of muriate of ammonia in the deeper-seated neuralgias—those which attack internal viscera—I can only speak with cautious reserve, seeing that the diagnosis of neuralgia in these situations is always surrounded with difficulty. In neuralgias of the *heart*, the best marked members of the group, I confess that I have never been inclined to rely upon them, and consequently have made no experiments which are worthy of being recorded; for the imminence of the danger connected with this kind of affection has always predisposed me to make use of remedies as to which there is strong evidence that they exert a powerful influence over the nervous apparatus of the heart. Sulphuric ether in the emergency of the actual paroxysms, and arsenic and strychnia as prophylactics, have appeared more worthy of persistent trial in these very serious diseases. Adding opium to the list, I am inclined to say much the same (though here the element of danger to life has not to be considered) in the case of *gastralgia*. In ovarian neuralgia, however, a sufficiently common and a very distressing malady, I have once or twice seen full scruple doses of the muriate produce remarkable relief; though here, again, the action of ether, and still better of morphia, or of atropine subcutaneously injected, is usually found to be a far more certain and direct means of quieting the pain. There is one variety of visceral neuralgia, however, which, though much less common than the kinds now mentioned, indisputably exists, and is, moreover, very troublesome and rebellious to ordinary anti-neuralgic treatment—viz. *hepatic*. No doubt there has been a great deal of vague and incorrect writing about hepatic neuralgia, the result of inexact diagnosis; but there are perfectly typical cases of the disease. The patient, with or without any obvious bilious disturbance, suffers from severe pain of the true neuralgic type, deep in the region of the liver, with intermissions of perfect ease; there are no inflammatory symptoms, and on examination we discover no sign of organic alteration. Sometimes the pain is limited to the immediate region of the liver; in other cases it extends towards the shoulder, as in many other liver affections. According to my experience nothing is more

\* Article on "Neuralgia" in "Reynolds' System of Medicine," vol. ii

obstinate than such a case as this. Quinine and arsenic are either ill borne by the stomach, or, if they create no disturbance, at least effect little or no relief. But here the muriate of ammonia, in ten or fifteen grain doses, really acts "like a charm," cutting short the attack promptly, and also seems to dissipate the tendency to neuralgia.

The mention of muriate of ammonia as a remedy for hepatic neuralgia conducts us very naturally to the consideration of another characteristic action of the drug, which is really of very great value. Although I cannot, from any experience of my own, confirm the statements of various continental authors as to the effects of the muriate upon secretion generally, with regard to the secretion of *bile*, when suppressed under certain circumstances, I am convinced that this medicine is the most powerful of all functional restoratives which I have met with. There is a very familiar class of cases of acute jaundice, the origin of which can be distinctly traced to strong *nervous perturbation*. There are certain persons, of markedly neurotic tendencies, who, throughout their lives, are liable to suffer from severe nervous disturbance of one kind or another, when they receive any considerable shock, either mental or bodily. Many of these subjects are liable to headache of a neuralgic type; a majority, perhaps, are women, with either hysterical or choreic tendencies. A severe nervous shock, such as that of fright, or more surely still the persistent influence of a deep and growing anxiety, such as that which preys on the mind of an unfortunate girl of respectable connections, who has been seduced and deserted, and finds herself pregnant—such powerfully disturbing emotional influences as these have frequently been known to suppress the excretory function of the liver in a very complete and dangerous manner, dangerous not merely from the toxic effect upon the blood, but from the intensely depressed condition of the nervous energy generally. The whole class of so-called cholagogue aperients are much more than merely inert for good in such cases, they are mostly actively harmful; and, by consent of all good authorities, a reviving and stimulant treatment is allowed to offer the only chance of good from direct medication. Any ammoniacal preparation will be useful, and I have seen good effects produced by the bicarbonate, by sal-volatile, and also by acetate of ammonia, in doses smaller than those required to produce diaphoresis. But the muriate is by far the most effective preparation; and, indeed, I have seen several instances in which two or three doses of twenty grains, given at intervals of four hours, have produced a decided change, and a marked recommencement of biliary excretion.

A much more doubtful matter, as to which, nevertheless, I am not prepared even to lean with any strength towards the negative, is the reputed *emmenagogue* influence of muriate of ammonia. There are probably very few physicians educated in the ideas of recent therapeutics, who believe in anything like *specific* emmenagogues—that is to say, in remedies which, in all circumstances, exert a more or less powerful and direct influence in the direction of provoking the menstrual flow. And although there are probably as few practical physicians who do not believe that there are several medicines which, given under exactly the proper and favorable

circumstances, do appreciably assist the function in question, yet it cannot be disputed that there is always immense difficulty in deciding the exact degree in which this action has been curbed in any particular instance. It is abundantly clear that such remedies as iron only act by improving the quality of the blood and the general tone of the nervous system, and it is extremely doubtful if such medicines as aloes, either alone or in combination with iron, have any more than this effect, with perhaps the added advantage, in particular cases, of keeping the intestines unloaded, and thus removing a source of frequent mechanical pressure. Of ergot of rye, and one or two remedies physiologically allied to it, it seems as if we were justified in speaking more strongly; and it remains doubtful, as far as my experience goes, whether muriate of ammonia may not ultimately prove also to possess a real influence upon the pelvic sympathetic nerves, which approximates its effects to those of the former drug in this particular direction. Given in ten-grain doses thrice daily, in cases of amenorrhœa marked rather by general feebleness than by anything like anæmia, it has occasionally seemed to me to conduce directly and considerably towards the cure. But of this, as of all other emmenagogues, it is pre-eminently true that they are worth absolutely nothing unless used precisely at the fit occasion.

In concluding this paper we may remark that there is not one fact mentioned in it that does not point to the nervous system as the *locus in quo* of therapeutic action of the muriate of ammonia. The relief it affords in myalgia, or in suppressed secretion, is surely as directly nervous as its anodyne effect in pure nerve-pain. It appears, in fact, when given in therapeutic doses, to be a pure tonic stimulant to sensitive nerves, raising them to a level of tense vitality *too high* for the explosive perturbations which, when carried to the brain, are translated as *pain*, and to the vasomotor system, directly inciting to a superior tone of the systemic vessels, which puts an end to that exaggerated passive congestion of viscera which is known to be fatal to the healthy performance of the function of secretion.

##### 5. *Therapeutic Uses of Oxygen.* By M. CONSTANTIN PAUL.

[*British Med. Journal*, Nov. 14, 1868; from *Bulletin gén. de thérapeutique*, Aug. 15, 1868.]

M. Constantin Paul sums up a paper on this subject as follows:

1. Oxygen is not a poisonous gas; and thirty *litres* of this gas in the pure state can be inhaled for several days without any accident. It is only at the end of two or three weeks that fever is produced.
2. Oxygen is a valuable resource in cases of asphyxia, especially when this is due to accidental suffocation. It may be useful in cases of strangulation, hanging, and drowning, as well as in poisoning by noxious gases or vapors.
3. Oxygen is a valuable remedy in nervous asthma. In humid asthma—*i. e.*, the catarrh which complicates emphysema—it will also be of good service, provided its use be persisted in.
4. In phthisis, oxygen has not given such good results as were expected. It produces immediate relief, and this is very valuable; but fresh exacerbations follow, more intense,

perhaps, than the first. It can, then, be regarded only as a palliative. 5. In albuminuria, oxygen may become a valuable remedy, if it be found, by further observation, to cause the albumen to disappear from the urine, as was observed in a case by Eckart and in one under the author's care. In any case, the remedy should be tried. 6. The same remark is applicable to diabetes. 7. In local gangrene, if there be not obliteration of the arteries, oxygen is a sovereign remedy.

6. *On the Employment of Belladonna in Surgical Affections.* By CHRISTOPHER HEATH, F.R.C.S., Asst. Surgeon to University College Hospital, London.

[*Practitioner*, November 1868, p. 296.]

The use of belladonna in the practice of surgery appears to be almost entirely limited by the majority of practitioners to its employment for producing dilatation of the pupil in cases of iritis, and as a placebo. in the form of a plaster, for lumbago and other chronic pains about the trunk. Having for some years given a much more extensive trial to this drug, and with very satisfactory results, I wish to bring the subject under the notice of the profession.

In the *Lancet* of August 9th, 1856, Dr. GOOLDEN, of St. Thomas's Hospital, directed the attention of the profession to the fact, then little recognised, that the extract of belladonna smeared over the areola of the breast of a suckling woman had a marked effect in arresting the secretion of milk. Following up this suggestion pretty extensively in dispensary practice, I was led to apply the extract of belladonna to acutely inflamed breasts, where, however, I did not desire to arrest the flow of milk entirely, and therefore applied the drug over the inflamed surface, leaving the areola and nipple untouched, in order that the infant might be able to suck with safety. Finding the influence of the belladonna most beneficial in these cases in both relieving the pain and reducing inflammation, I have been led to extend its use to inflammatory swellings of various kinds affecting the surface of the body.

In the acute inflammatory swelling of the lymphatic glands of the neck, which is so excessively painful and so often runs on into suppuration, I have found great benefit from the free use of the extract softened with glycerine; occasionally, if the pain is very great, employing a linseed-meal poultice over the extract for a few hours only. In inflammation of the lower jaw and the adjacent tissues, depending upon alveolar abscess, I have seen the greatest benefit derived from the application of the extract, and have rarely had to make external incisions in these cases. In lymphatic inflammations, when the cause is more distant, I have also seen benefit derived from the belladonna. Some years back I was consulted by a young army surgeon who had inoculated his finger with some virus, and who had violent and most painful inflammation of the lymphatics of the arm. Here and in other similar cases the application of the extract was of the greatest service, and most materially

reduced the inflammation. In the treatment of bubo I have also found the belladonna useful, but rather in the femoral variety, when the inflammation depends upon some simple sore in the foot, than the inguinal and venereal bubo, where the poison is of a specific character.

In more strictly localised inflammations, such as boil and carbuncle, I have found belladonna give great relief in the earlier stages, reducing the angry blush upon the skin, and leading to resolution, provided suppuration had not taken place. If it had, however, I prefer early recourse to the knife; in the case of a boil, passing a narrow blade down the centre until matter is reached; in carbuncle, employing subcutaneous section, as recommended by Mr. FRENCH.

I have employed the extract of belladonna a few times in cases of orchitis, where the inflammation has been of a subacute character, and has depended upon some slight irritation, such as the passage of a catheter. I fancied that this was a novelty, but, from a reference in NEVIN'S "London Pharmacopœia Translated," I find that in the *Lancet* of 1837-38 (vol. ii. p. 81) a Dr. HALL wrote respecting the treatment of orchitis by the external application of belladonna; and from the description he gives of the condition of his patient when first seen, he must evidently have been suffering from inflammation of the testis in its most acute form. In the treatment of chordee, I have found the application of the softened extract along the lower surface of the penis of service, and so also in a case of very irritable urethra depending upon a granular condition of the mucous membrane of the bulb (as seen with the endoscope), where micturition, and still more sexual intercourse, gave rise to severe aching pain along the urethra. In cases of slight ulceration and fissure of the anus I have found the use of a bougie smeared with equal parts of extract of belladonna and mercurial ointment of great benefit, in some cases effecting a cure without any operative interference, and in all cases giving relief to the spasm which usually accompanies this affection. Dr. TANNER ("Practice of Medicine," p. 513) speaks highly of suppositories made of the mercurial ointment and the extract, in the proportion of half an ounce of the former to twenty grains of the latter, and brought to a suitable consistence with cocoa-butter; but I think the bougie brings the medicament more fully into contact with the mucous membrane.

Even in parts where the drug cannot be brought into immediate contact with the organ affected there may yet be a beneficial influence exerted. Thus I have in two instances seen the very greatest relief derived from the application of belladonna to the spine, in congestion of the spinal cord (?) accompanied by most violent pains and spasms—in one case almost resembling tetanus. Mr. ERICHSEN has also employed the extract as an application to the spine, in cases of shock from railway injury, with advantage.

. . . To pass to another part of the subject—the internal administration of the drug. Dilatation of the pupil and relief from photophobia are produced almost as readily by the internal administration of belladonna as by its external application; and it is reasonable, therefore, to suppose that its action is the same in whichever way it reaches the blood—viz.

that it diminishes vascularity by inducing constriction of the blood vessels. I do not propose to discuss the various diseases, such as epilepsy, whooping-cough, etc., in which the internal administration of belladonna has proved useful, but shall confine myself to a few surgical diseases in which I have found the drug beneficial. In nocturnal incontinence of urine in children, I have found considerable benefit from the internal administration of the tincture of belladonna, combined with tonic treatment; and have also proved its efficacy in cases of too frequent nocturnal emissions. In a case of troublesome spasmodic stricture, lately under my care, I found benefit derived from the administration of the tincture in  $\frac{mij}$  doses every four hours, so that in two days the patient was able to pass a No. 8 catheter for himself. The application of belladonna to the perinæum, in cases of spasmodic stricture, has often been recommended; but I think its internal administration more satisfactory. In cystitis, belladonna administered internally would, I believe, prove a valuable remedy; but I have not had the opportunity of trying it sufficiently to speak positively on the point.

I have employed small and frequently repeated doses of belladonna internally in erysipelas, and have been perfectly satisfied with the result, and should have no fear of employing it even in erysipelas of the head, on account of the supposed danger of inducing congestion of the brain. The drug would, I take it, produce an exactly opposite effect; for so far from driving the erysipelas in upon the brain (if that is ever possible), the influence of the belladonna would be exerted equally upon the interior with the exterior of the cranium, and any congestion of the capillaries of the brain which might be present would thus be antagonized. If this view is correct, it would appear that belladonna might be usefully had recourse to in cases of congestion of the brain from any cause; and such is probably the fact.

The conclusions I would venture to draw are, that the action of belladonna, whether applied locally or given internally, is the same; viz. that by its action upon the vasor-motor system of nerves it diminishes the calibre of the capillaries, and thus directly reduces the vascularity of an inflamed part. Its action is thus peripheral: and it is, therefore, the opposite of aconite, whose action is central or upon the heart itself. It does not follow, however, that the two drugs cannot be employed together; quite the contrary: the action of the one is to diminish the flow of blood to the part, whilst the other assists the tissue to get rid of the superfluity it already contains and resist its further entrance, and the two may in many morbid conditions be advantageously combined.

7. *Oleum Terebinthinæ an Antidote against Phosphorus.*

By Dr. P. E. ANDANT, Dax (Landes), France.

[*Bulletin gén. de thérap.*, March 30, 1869, p. 273.]

The author's first observation of the use of the essence of turpentine in poisoning by phosphorus, published in the preceding

volume of the *Bulletin*, gave rise, as the editor of the latter states in a note, to the useful researches of M. PERSONNE, which showed clearly that the essence of turpentine, administered in time, annihilates the toxic effects of phosphorus. The author now reports a second case.

Mme. C., æt. 22, attempted suicide by swallowing the phosphoric ends of a dozen matches soaked in a third of a tumblerful of cold water. Called to the patient about an hour after the dose was taken, he found the breath of a strong garlic odor, the stomach swelled, epigastrium and abdomen painful on pressure, and great perturbation of the nervous system. Patient complained of toothache, pain in the throat, burning thirst. Her voice was hoarse. No eructations, no nausea, no vomiting, no diarrhœa. She said her legs and arms were becoming stiff like bars of iron. No fever, features slightly disturbed, intelligence preserved.

One gramme of oil of turpentine\* was ordered to be taken every quarter of an hour; in the intervals, to allay the thirst, water charged with white of egg.

Two hours later, the patient was already better. Next morning the bowels were evacuated by calcined magnesia. The night had been restless, the patient had been very much excited, still had pain in the throat and difficulty in swallowing. An emollient gargle was prescribed, and a mixture like that of the evening before. The following night the patient slept, and arose the next morning, though feeling much feebleness, stiffness, drowsiness, and pains in the epigastrium and abdomen. She is now in good health, and under treatment only for a gastralgia, or rather a gastritis, the result of the action of the phosphorus upon the gastric mucous membrane.

8. *On the Therapeutic Action of Aconite and its Preparations.* By SYDNEY RINGER, M.D., Prof. Therap., University College, etc., London.

[*Lancet*, April, 1869, p. 201.]

Of all the drugs we possess, there are certainly none more valuable than aconite. Its virtues by most persons are only beginning to be appreciated, but it is not difficult to foresee that in a short time it will be most extensively employed in the diseases immediately to be noticed. . .

\*In a mucilaginous mixture: PR. *Potion gommeuse*, 100 grammes, *Sirôp de fleurs d'oranger*, 20 gr., *Essence de térébenthine*, 4 gr., *Gomme adragante*, 25 centigr.



When employed internally, the following sensations are experienced, the graver appearances and symptoms occurring only when a considerable dose has been taken. There is first a feeling of warmth at the pit of the stomach, with sometimes nausea and vomiting. The feeling of warmth spreads over the body, and there is soon perceived tingling of the lips and tongue and adjoining parts; the uvula with the tongue feels as if it were swollen, and too large for the mouth, and deglutition is frequent. If the dose has been a large one, the tingling and numbness are felt in the tips of the fingers, and thence spread over the whole body, and are accompanied by diminished sensibility and some muscular weakness, which, if the dose is a considerable one, becomes extreme, and is one of the most prominent and important symptoms of the drug.

On the circulation and organs of respiration its action is most noteworthy. With moderate doses the number of the heart's beats are much lessened, and may sink to 40 or 36 in the minute. After a larger and dangerous dose, the pulse rises in frequency, and may become irregular. With some persons such irregularity follows even a small quantity of the medicine. Whether the frequency be increased or lessened, the pulse always loses strength, and hence the circulation is retarded. The effects on respiration are very similar. By moderate doses the breathing grows slower; but after large and poisonous quantities it is often short and hurried.

During the administration of aconite cutting pains are often complained of in the joints and other parts of the body, and there sometimes breaks out on the skin an eruption of itching vesicles. Delirium occurs in some cases, but often after fatal doses the mind remains clear to the last. In some cases which have ended in death there has been found blindness, and deafness, with loss of speech.

When death is produced by this drug, the muscular weakness is extreme, and frequent faintings occur. Death from aconite appears to be due to syncope. On account of its power to diminish sensibility, aconite has been used internally in various painful diseases; but other remedies have, for the most part, superseded it for the relief of pain.

It is on account of its power to control inflammation and subdue the accompanying fever that aconite is to be the most esteemed. The power of this drug over inflammation is little less than marvellous. It can sometimes at once cut short the inflammation. It does not remove the products of inflammation when these are formed, but, by controlling the disease, it prevents the formation of these, and so saves the tissues from further injury. It is therefore in the early stage of inflammation that the good effects of this plant are most conspicuous; still, although the disease may have progressed to some extent, and have injured the organs by the formation of new and diseased products, while the inflammation is extending aconite does good. It is useful wherever there is acute inflammation of any tissues of the body. The good it accomplishes can be shown both by the amelioration of the symptoms, and, still better, by the changes it effects in the inflamed tissues when these are visible, as in pharyngitis, tonsillitis, etc.

As might be expected, the results of aconite are most apparent when the inflammation is not extensive, or not very severe, as in the catarrh of children, or in tonsillitis, or in acute sore throat. In these comparatively mild diseases, especially if the aconite be given in the earliest stage of the inflammation, when the chill is still on the patient, the following consequences will very generally be witnessed: In a few hours the skin, which before was dry, hot, and burning, becomes comfortably moist; and, in a little time longer, it is bathed in a profuse perspiration, which may be so great that drops of sweat run down the face and chest. With this appearance of sweat many of the distressing sensations—such as restlessness, chilliness, or heat and dryness of the skin—are removed. At the same time the quickened pulse is much reduced in frequency, and, in a period of twenty-four to forty-eight hours, it and the temperature have reached their natural state. It is rare that a quinsy or acute sore throat, if caught at the commencement, cannot be disposed of in twenty-four to forty-eight hours. The sweating may continue for a few days after the decline of the fever on slight provocations; but it then ceases.

The appearance of the inflamed part also exhibits, in a striking degree, the beneficial effects of the drug. Thus, large, livid, red, glazed, and dry tonsils may often in twenty-four hours have their appearance completely altered. If the medicine has been given before much lymph has been formed in these organs, in the time named the swelling and most of the redness will have disappeared, and the mucous membrane will have that look which proves the acute inflammation to have subsided—namely, it has become moist, and is bathed with mucus or pus. If just at this stage some strong astringent—such as glycerine of tannin—be applied, most of the remaining diseased appearance and the pain, if it continues, will be removed. Such are the visible effects of aconite on inflamed tonsils, etc.

These statements are not exaggerations, but the simple truth, as may be witnessed by those who will employ the aconite in the way to be immediately mentioned.

Its effects on catarrhal croup are as conspicuous. In a few hours the urgent dyspnoea is removed; and in a short time longer the fever is subdued. Severe colds, in which there is much chilliness with great aching of the limbs, with a hot, dry skin and quick pulse, may be equally well treated by aconite. So, indeed, may all the slighter forms of inflammation.

The effects of this valuable drug, though not so rapid, are equally important on pneumonia, pleuresy, and the graver inflammations. These diseases may be considerably curtailed, and made much milder, if aconite is employed.

Its influence on inflammation has been ascribed by most observers to its power over the heart; and, as they truly point out, the remedy is found to be of most use in the sthenic forms of the disease; and where there is great weakness and the heart beats feebly, unless care is taken, it may do harm. The method of employing the drug has much to do with its success. As already said, it should, where possible, be given at the

very beginning of the disease. Every hour is of importance; the use of the medicine should never be delayed. Of the tincture, half a drop, or a drop in a teaspoonful of water should be given every ten minutes or quarter of an hour for two hours, and afterwards continued every hour. If there be much prostration, and the pulse be feeble and weak, a still smaller dose will best be given.

It is not inappropriate to mention here what signal service the thermometer may render in enabling us to decide whether aconite should be given or not. When called to see a patient, and when the symptoms and physical signs are not sufficiently developed to decide whether an acute inflammation of some deep-seated part has set in or not, this instrument will often decide the doubt. No acute inflammation can exist without preternatural heat of the body. Hence, if in a doubtful case the temperature, after a careful investigation, be found natural, the case is not one for aconite; while, on the other hand, if the symptoms, although doubtful, indicate an inflammation, the presence of an increased heat of the body will very considerably add to the probability of its existence, and will so indicate the advisability of employing aconite.

Another instance may be mentioned. After scarlet fever, as is well known, acute inflammation of the kidneys is very liable to occur. This would at once be indicated by a rise in the temperature of the body. It is therefore desirable to direct the friends of such patients to observe, night and morning, the temperature; and if this should rise beyond limits of health, they should at once commence the administration of aconite and not allow some hours to elapse before the patient can be seen by a medical attendant. It is true that fever may depend on some other complaint than inflammation of the kidney; but it will even then probably be inflammatory in character, as from gastric catarrh, overfeeding and the like, in all which cases the aconite will be equally efficacious.

Whether aconite is of use in the fever of acute specific disease, as scarlet fever, measles, etc., is not so certain as its power over inflammation. But although there may be some doubt whether this remedy can lessen the severity of the fever of the acute specific diseases, there is no doubt it can control and subdue the inflammatory affections which often accompany them, and which may by their severity endanger life. Thus aconite will moderate the inflammation of the throat in scarlet fever, and the catarrh and bronchitis in measles, and in this indirect manner lessen the height of the fever. It appears to be unable to shorten the course of these acute specific diseases. In the treatment both of simple inflammations and acute specific diseases, aconite may be appropriately administered in conjunction with some other remedy which may be indicated.

The treatment which has just been described will be found of value in erysipelas, in which disease belladonna may also with advantage be given. In the treatment of acute rheumatism aconite has been much praised, and from the eminence of the authorities by which it has been recommended there can be no doubt of its usefulness. Still in this complaint its good services are not so apparent as in acute inflammation. This disease has no regular course or duration, but may, untreated, last

only a few days, or many months. It is difficult, therefore, to decide whether the speedy decline of the fever in some cases is a natural decline, or has been accomplished by the aconite. It is certainly ineffectual in many cases, which appear to run their course uncontrolled by this remedy. So that it is still required to determine in what class of cases it is useful, and in what cases it is without effect. In one respect it often appears to be of service—namely, in removing the pain from inflamed and swollen joints.

Gouty pains are said by some to yield to this remedy, and it has in many instances, apparently with good results, been given to persons suffering from neuralgia.

The effect of this remedy on the heart has been mentioned. There it was shown to lessen the rapidity of the circulation. Aconite may thus be used in all cases where there is vascular excitement which it is desired to suppress, and also when it is desirable to diminish the force of the circulation. In fact, it may be given in precisely those cases which were formerly treated by bleeding.

This remedy may be employed with advantage when the menses are suddenly checked, as by cold, on account of its power to restore the flux, and so remove the distressing and peculiar symptoms which not unfrequently occur when such a disease is produced.

The "fluttering at the heart" of nervous persons, and also nervous palpitations, generally yield to this remedy. Usually when such disturbances occur, more general treatment is required, but when the conditions causing the palpitation cannot be discovered or cannot be removed, then aconite may be usefully employed.

The acute stage of gonorrhœa may be well treated by a drop of the tincture of aconite each hour, and the same treatment will often remove chordee.

9. *Digitalis in Disease of the Heart.* By J. MILNER FOTHERGILL, M.D., Edin., etc., Morland, Westmoreland.

[*Edinburgh Med. Journal*, April 1869, p. 876.]

"Strange it is that this vegetable, which makes a healthy heart first intermit and then stop altogether, should bring back to order the organ when it is weak and beating unevenly!"—*Dr. King Chambers.*

The great influence of digitalis over the centre of the circulation has always been acknowledged, though different and opposite views are held as to what that influence is. In cases of palpitation, irregular rhythm, etc., digitalis has always held a high therapeutic position, whether as of old, and, perhaps, with the majority of practitioners yet, it is reputed to exercise a sedative influence over the heart; or, as further observation tends to demonstrate, its action is essentially tonic. It seems strange that views so opposite can be entertained on a subject which has received such a share of attention as the action of this drug most undoubtedly has; at first sight it might seem utterly impossible to reconcile them;

on careful examination, however, this difficulty lessens. The action of digitalis, like most therapeutic so-called facts, must depend, for its true foundation, on physiological experiments combined with clinical research.

Both the experiments of Handfield Jones and Fuller show conclusively that in digitalis-poisoning the heart is found in a state of tonic contraction. Clinical observations, which, of course, are much more numerous than physiological experiments, show also that under digitalis, in many cases an irregular pulse becomes much steadier, the beats becoming more equal and regular; clinical observation will show, too, yet another fact, not by any means so well known, that where a heart, with or without valvular disease, is beating so feebly that its apex-beat can not be felt, that its sounds are inaudible almost, certainly undistinguishable, and the pulse almost imperceptible, under digitalis it becomes so altered that its apex-beat becomes perceptible; not only can the natural sounds, but, where present, the abnormal sounds can be clearly distinguished, whose presence before could only be suspected, and the pulse can be distinctly counted.

To illustrate its action, let me bring forward one or two cases. An old and easy gentleman—with feeble irregularly-beating heart, with mitral regurgitation, who can scarcely walk round his garden, and is frequently brought in almost pulseless from cardiac syncope, requiring strong stimulants to keep the heart beating at all—in a few weeks after the administration of digitalis can walk two or three miles without discomfort; which state continues, and he has not had an attack of cardiac syncope for months—in fact, since the treatment commenced. The dropsical patient—swollen, distended, breathing with the greatest difficulty, and often gasping in agony, his passively-congested kidneys secreting only a few ounces of urine daily—under digitalis often leaves his bed relieved, his breathing easier, the œdema diminishing, and his kidneys, which before were unable to relieve the system, however goaded by diuretics, now secreting freely. And this not by its lowering the circulation, and thus relieving the renal congestion, as the old explanation ran, for in fact the heart beats more vigorously, the pulse is firmer; but because the blood now circulates more rapidly, is more readily brought in contact with the different depurating organs, and thus its watery portion more quickly excreted. Water is being constantly generated within the body, as one product of hydro carbonaceous oxidation, and in the removal of it the kidneys have a great share; but unless the different portions of the blood are properly and quickly enough brought in contact with the depurating organs, elimination can not be efficiently carried on. “It seldom succeeds in men of great natural strength, of tense fibre, of warm skin, of florid complexion, or in those of a tight and cordy pulse. On the contrary, if the pulse be feeble or intermitting, the countenance pale, the lips livid, the skin cold, the swollen belly soft and fluctuating, or the anasarcaous limbs readily pitting under the pressure of the finger, we may expect the diuretic effects to follow in a kindly manner.”—(Withering, quoted by Pereira.)

Another case particularly strikes me. A young woman of thirty,

suffering from palpitation on the least exertion, was very weak, her pulse merely a tremulous motion,—for no distinct pulse could be ascertained,—the sounds of the heart were undistinguishable, and the impulse imperceptible, and to this was added decided azoturia. Tonics of various kinds and variously combined, vegetable, mineral, with and without cod-liver oil, seemed to have no effect at all. At last, beginning to suspect that the state of the heart might be the cause and not the result, digitalis was administered: soon the pulse could be distinctly counted, but fast and irregular; the heart's sounds could be made out, and the condition of a simply dilated heart was clearly revealed. Synchronous with the improvement in the centre of the circulation was a decided improvement in the other symptoms; the debility was no longer so extreme; moderate exertion no longer brought on violent attacks of palpitation; the nutrition of the body was improved, and the patient went steadily forward. She had suffered a great deal of mental anxiety and “hope deferred,” which had probably altered the innervation of the heart.

These cases, and they could be multiplied far beyond the bounds of an article like this—for Westmoreland, with its humid atmosphere engendering rheumatism, and its long-lived population, teems with cases of chronic disease of the heart—go far to show that digitalis does not lower the circulation; nor is its tonic action due to a sedative influence on the heart's rhythm, for though the pulse is stronger, the irregularity often exists as before.

Its mode of action is not yet settled; the results of its administration are, however, much better known. When administered in hypertrophy, it is reputed to relieve the system; how, I shall attempt to explain below. When given in cardiac debility, the laboring palpitating heart, striving with irregular efforts to fulfil its function, becomes quieter, and less easily excited by moderate exertion; the heart, which is still less equal to its work, whose beat is feeble—so feeble that the contraction sometimes produces no pulse-wave, as is the case in the so-called intermittent pulse, and which is one of the most serious symptoms of degeneration of structure—is equally under its influence. How that influence is actually brought about, in the present state of our knowledge, we do not know. It exists, as observation demonstrates, and may be accounted for either on the supposition that digitalis acts directly by its presence in the blood, thus exciting the heart to stronger contractions; or its influence may be exerted through the nervous system. “Digitaline does not act upon the heart itself, or on the nerves of the heart, but upon the inhibitory centre in the brain; its effect is produced through the eighth pair, for when these are cut, digitaline does not act.” (Bence Jones). Whether this is the correct solution, or we have yet to seek a satisfactory one, this we do know, that digitalis increases the strength of each heart-stroke. The laws of supply and demand in the system ensure a freer supply of blood, when increased wear and tear cause a greater demand. It is more essentially the state of the muscular parietes of the heart with which digitalis is connected. When unequal to the effort required of them, and ineffectually attempting to force forward the column of blood, they yield under

the obstruction, and dilatation is the result; the more or less hypertrophy with it, in proportion as the reparative power of the system is equal to or unable to meet the demand, no discriminating power of working or resting is allowed, "the failing heart knows no break in the life-long circle of its toil." certain work must be done, or life must cease to exist, and, equal to it or unequal, the heart must go on: it is from these circumstances that digitalis is so essentially of use. Where, also, the *fons et origo mali* is in the walls of the heart itself, when degeneration of the muscular structure is going on, then, too, digitalis is of use: in increasing the force with which the heart contracts on the one hand, it calls for more nutrition to replace the effete material; on the other hand, the *vis a tergo* being increased, the blood is driven more quickly through the ossified arteries, and thus, to some extent, the want of elasticity in the altered middle coat compensated. In angina pectoris, when the patient feels the very pangs of dissolution, and when the degenerated heart is just struggling for existence, Dr. Fuller says, "Digitalis in full doses would probably prove useful, but as yet I have no experience of its action during the paroxysms;" and it is so, for in a case which occurred so near that it gave me opportunities of watching them, the patient suffered from severe attacks of angina, apparently very little relieved by general stimulants, the addition of tincture of digitalis made the most material alteration in the duration of the attacks.

What then are the inferences to be drawn from the above-mentioned facts? for facts they are, whether the attempted explanations are satisfactory or not. How can a drug possessing this action also reduce the pulse-wave, and relieve the consequences of an hypertrophied heart? That it is so, we are told, but I may not affirm it, for it appears a dangerous experiment, from what we are told occurs when digitalis is administered in hypertrophy, and which does not occur when it is exhibited in cardiac debility—viz., digitalis-poisoning. To quote from Pereira,—“A most important fact, connected with the repeated use of small doses, is the *cumulative effect* sometimes observed. It has not unfrequently happened that, in consequence of the continued use of small doses of this medicine, very dangerous symptoms, in some cases terminating in death, have occurred. The most prominent of these were great depression of the vascular system, giddiness, want of sleep, convulsions, and sometimes nausea and vomiting.” “In the second degree of operation . . . the pulse becomes feeble, sometimes frequent, sometimes slow; there may be actual syncope, or only a tendency to it.” “In the third degree . . . slow, feeble, and irregular pulse, great faintness, and cold sweats.” Now, let us take this along with what physiological experiments and clinical research, as to its action on feeble hearts, tell us. The hypertrophied heart under digitalis contracts even more firmly; but, we must remember, there are two things for a moving heart to do—firstly, to contract, and secondly, to open again. Now, this last it is proposed to consider for a moment. The heart already, from whatever cause, contracting more firmly than is natural, is stimulated to contract more firmly still; the cavity of the ventricles is diminished, and that condition is produced which was once more

talked of in works on diseases of the heart than is now—viz., concentric hypertrophy. This would and does satisfactorily account for the "slow, feeble, and irregular pulse;" the heart can not open sufficiently, the auricles can not drive the blood into these unnaturally-contracted ventricles, and the peculiar symptoms of digitalis-poisoning are produced. The reduction in the strength of the pulse can thus be easily understood, and it is by no means difficult to comprehend that those awkward results of over-contraction follow, which are practically unknown where digitalis is administered to a heart contracting too feebly. The stimulus which drives the overacting heart into a state of desperate contraction is naturally the one thing wanted when the heart can only act insufficiently. The cumulative effect of digitalis on the hypertrophied heart is the permanent, or, if I may be allowed the expression, the temporarily-permanent effect of it on the enfeebled or inactive heart. That which produces such dangerous consequences on the one hand is our anchor of hope, the very salvation of the patient, on the other.

An intermediate idea has been advanced, but found only few supporters, that the tonic effects of digitalis are due to its sedative action; that by making the heart's action slower and steadier, it gave increased strength to the beat. This opinion has, however, nothing to support it. Clinical observation shows no proportion betwixt the increased strength of the beats and their diminished number, and reason can advance nothing in its defence. The irregularity of the heart's action certainly is, in some cases, reduced by it considerably, but not in others, and this depends upon its cause. Irregularity of the pulse-wave as regards its volume depends, in auriculo-ventricular regurgitation, where it is most frequently met with, on the amount of backward flow in each stroke; and, until we can ascertain the causes on which this depends, we can not tell whether it will be within the reach of art or not; though digitalis gives relief, the irregularity is not done away with, as experience readily demonstrates. In irregularity from debility, along with that peculiar motion of a dilated heart, which is most like to a horse changing its feet when cantering, and which would appear to be due to the ventricular contraction starting from another set of fibres, but which, let its cause be what it may, is so markedly connected with dilatation as almost to be pathognomonic of it, digitalis certainly makes the pulse more regular; but not by reducing it to a level of feeble beats, but by putting it more into its normal state of regular contraction. In this irregularity some beats are of normal strength, some feebler; these last become improved under its use, and the beats are more alike, the heart contracting more strongly on the defective occasions.

In *hypertrophy*, then, digitalis is not indicated, though it may certainly relieve the results of it, by producing a state of dangerous tonic contraction; except, perhaps, when a very narrowed aortic orifice presents an almost insuperable obstruction. "In fact, the art of treating hypertrophy consists in keeping the patient rather low, and the circulation very tranquil, yet short of producing anæmia or debility" (Hope); and this can be more safely done by remedies, as antimony and aconite, which certainly directly lower the action of the heart, than by digitalis.



In *valvular lesions* it is almost always indicated. In obstruction, by assisting the natural efforts of the heart to overcome that obstruction. In a case of aortic obstruction, with cerebral anæmia following wherever over-exertion left the heart unequal to driving a sufficient column of blood through the narrowed orifice, digitalis, continued for a few days, relieved the patient for months. In a case of pulmonary obstruction it relieved the symptoms, and produced the same effect in increasing the apex-beat, as in the more common aortic obstruction. In regurgitation through the mitral valve it is most useful; the increased action of the right ventricle (which may sometimes be shown by the sharp click of the pulmonary valves—*Skoda*) is not lost through the comparatively short passage of the blood through the pulmonary circulation, and this *vis a tergo* is effective in, to some extent, opposing the regurgitation. But in tricuspid regurgitation it, as well as anything else, seems useless. The increased action of the left ventricle is lost over the length of the systemic circulation, the venous regurgitation can in no way be controlled, and the case goes on from bad to worse rapidly, apparently little influenced by remedies. In auriculo-ventricular regurgitation little good can be derived by direct stimulation of the auricles; auricular hypertrophy is comparatively rare, and possesses no great compensatory power, because the auricles have no valves *behind* them. In mitral obstruction it is of use for the same reasons as in mitral regurgitation. In the rare cases of tricuspid obstruction it is probably of as little use as in tricuspid regurgitation, and for the same reasons. In aortic regurgitation it has been considered contra-indicated, the heart contracting sufficiently strongly without it, and from a fear of producing tonic spasm, which may never be followed by dilatation; but in this case even we must be guided entirely by the state of the muscular walls; if nature is conducting the conservative change to a sufficient length unassisted, no interference is indicated; but if not, and there is a tendency in the walls to yield, then digitalis is not contra-indicated. Pulmonary regurgitation, when it exists, will require the application of the same rules as aortic regurgitation. "The importance of the existence or non-existence of valvular disease lies not in the injury it inflicts itself, as in the likelihood of the induction of the other lesions of the heart." (Chambers.)

In *dilatation* of the heart, whether simple or with hypertrophy, and with or without valvular lesions, digitalis is especially indicated. The thinner the muscular walls, and the feebler the contractions, the more imperatively is it demanded.

In *organic degeneration of the muscular tissue*, I have above attempted to show the rationale of its use; whether the explanation can stand or not, the fact can, that in cases where there was every reason to believe the muscular structure of the heart affected, from the presence of arcus senilis, and that haziness of the cornea as if globules of fat were scattered through its tissue generally, which makes the accompanying arcus senilis still more significant, a course of digitalis has been followed by lasting benefit.

While digitalis, by increasing the heart's action, leads to a freer flow of

blood to supply the waste, and thus more or less permanent good results therefrom, still it is most desirable that that increased flow of blood should be healthy blood; and in cardiac debility anæmia is most frequently present. Now, from its known effect in anæmia on the one hand, and the improved nutrition which results from its use on the other, in lesions of nutrition of the heart as much as in other organs, iron is clearly indicated in conjunction with digitalis. How this can be done so as to secure the maximum amount of good in every way, shall be considered in the following section.

*Mode of Administration.*—Digitalis is usually prescribed in three modes—the powdered leaves, tincture, and infusion. The infusion has always been considered to contain more particularly the diuretic principle, and therefore does not concern us here; while the tincture retains more especially the tonic principle which acts upon the heart. The tincture is a ready and, in some cases, most convenient form for exhibiting it; but it has these great drawbacks, it forms a very unpleasant combination with iron, and its taste is objectionable—a great disadvantage where it is desirable that the patient continue the medicine for some considerable time. Where the patient is not anæmic, it is most convenient to prescribe the tincture, in a bitter infusion if the appetite is defective, or, if necessary, with chloric æther, serpentaria, or other diffusible stimulant.

The most convenient form for general use is the powder. Of digitaline, I can not speak from experience. Of course, when prescribed along with iron, it will combine with it in the stomach; but that is of no great consequence. Chronic disease of the heart is commonly accompanied, probably as results, by constipated bowels, frequently great disengagement of gas, and, in a great proportion of cases, by more or less gastric catarrh. It is convenient, therefore, often to prescribe it along with sulphate of iron—one of the best preparations of iron, while its astringency acts favorably on the stomach—a little powdered capsicum in the watery extract of aloes, pil. aloë et myrrh, and extract of gentian (all of which form good pill-masses, and this is no small matter in encouraging the practitioner in the use of pill medicines), according as the bowels require. Do not let the reader be tempted, if a little brisker purgative is required, to mix pil. col. comp. with iron, if he wishes ever to see the mass in actual pills, but use a little pulv. scam. co., or a little gamboge. Sulphate of iron, to be easily used in a pill-mass, requires to be well dried, either in an oven or before a hot fire, so as to become anhydrous. This combination I have found to be far the most convenient of all forms of exhibiting digitalis, both as regards the patient's requirements and also its easy administration. As a pill, something like this—*R* Pulv. digitalis, gr. xv.; fer. sulph. exsicc., gr. xxx.; pulv. capsici, gr. xv.: ext. al. aquos., q. s. in pil. xxx. div.—is desirable; and a pill should be taken after dinner and another meal, at the patient's or your option. The pills are well digested, and cause no inconvenience if taken about half an hour after a meal. This form of using digitalis obviates the necessity of the patient twice a day rebelling against its unpleasant taste, and also does not cause any gastric derangement, which the tincture is charged with doing sometimes, though

a free use of it has only brought one case, where it might possibly be blamed, under the writer's notice. In some cases it might seem desirable to administer the tincture in a bitter infusion before food, and the iron after food—restorative remedies acting most powerfully when digested along with the food.

In conclusion, let me say that a free, fair, and impartial trial of digitalis, in atonic conditions of the heart, is most desirable, as, if the above-announced view of it be correct, it is an agent which stands alone in our pharmacopœia, and holds out hopes to the suffering patient which no other remedy can supply. Let the trial be as general as possible, if conviction is to be generally attained, in the present state of medical thought on the subject, whether the newer views be substantiated or not. It certainly will sometimes be a trial of the practitioner's moral courage to prescribe it, with the old idea as to its sedative action to deter him. But let him not be afraid, since Sir H. Holland wrote: "The enlarged and flaccid heart, though, on first view, it might seem the least favorable for the use of the medicine, is, perhaps, not so." The idea as to its tonic action has constantly been growing, till I venture to say, that the thinner the muscular walls of the heart, the feebler their action, and, probably, even the more degenerate their structure, the more imperative the necessity for digitalis.

10. *On the Value of Iron in the Treatment of Inflammation and some other Febrile Conditions.* By R. W. CRIGHTON, M.D., Edin., Leamington.

[*British Medical Journal*, Jan. 9, 1869.]

The valuable paper of Dr. C. Bell and Mr. G. H. Bell of Edinburgh on "The Treatment of Erysipelas by the Muriated Tincture of Iron" (*Monthly Journal of Medical Science*, 1851) induced me, shortly after reading it, to employ this agent not only in erysipelas, but in other inflammatory affections, as pleurisy and pneumonia, in which I used it alternately with tartarised antimony (*Monthly Journal of Medical Science*, 1852). The rapid recovery of the patients under this method of treatment was so marked that I have never since omitted the iron in the treatment of the various forms of inflammation—using it as the main agent in certain cases of a peculiarly asthenic type, or giving it in a combined form in smaller doses, while the secretions of the skin and alimentary canal were freely stimulated in plethoric subjects.

The occurrence of an extensive epidemic of diphtheria in 1859 gave me a wide field for testing the effects of iron in this disease; and after treating a few cases, I was led to adopt a combination of the muriated tincture of iron in doses, varying according to age, of four minims, ten or fifteen minims, with one to two drachms of the liquor ammonia acetatis (*Edinburgh Medical Journal*, 1860) every two or three hours. The resulting compound I have ever found invaluable in the *early stage* of all inflammatory affections. Free action of the skin is quickly produced, the pulse

is lowered, and in many cases, as in tonsillitis, the inflamed organ recovers its natural condition as quickly as the skin does when the muriated tincture is administered uncombined in a case of erysipelas. In the early stage of typhoid fever, I know of no means more likely to mitigate the symptoms and calm the patient than the combination of the muriated tincture of iron and the acetate of ammonia, but in larger doses than seem to be tolerated in most other diseases. A medical friend, to whom I recommended the employment of the combination some years ago, has since assured me that he has observed many cases of typhoid fever apparently cut short by its use, and that he never omits it at the commencement of the treatment in any case.

In scarlatina, the early use of the ferruginated diaphoretic, and afterwards of the iron singly, or in combination with quinine and nitric ether, will, in most epidemics, effect all that can be accomplished by medicines. In the inflammatory form of Bright's disease, occurring from sudden chill, I have seen a speedier convalescence obtained by means of this combination than by any other plan of treatment.

I will only notice one other class of cases where it has, in my hands, proved eminently useful; viz., in puerperal metritis and peritonitis. When given at the very commencement, in conjunction with the application of turpentine stupes to the abdomen, a few hours will often find the patient transferred from a state of extreme suffering and danger into one of comparative ease and safety.

The therapeutic value of the combination of the muriated tincture of iron with the acetate of ammonia in the diseases in which I have employed it is, I believe, due to its power of establishing early and free diaphoresis, of stimulating the capillaries to contraction, and furnishing to the blood the means of renewing its red corpuscles, which undergo an unusually rapid disintegration in inflammatory and febrile diseases. But, whatever the true explanation of its mode of action may be, the curative effects of the combination I consider to be so great, as to induce me to state that, in many of the diseases in which I have used it rather extensively, I believe there are no other therapeutic means at present in use which are capable of furnishing equally valuable results.

#### *PATHOLOGICAL ANATOMY.*

##### *1. An Explanation of Sudden Deaths in Infants.* By Dr. NEFTTEL. (New York Pathological Society.)

[*Medical Record*, Dec. 1, 1868.]

Dr. NEFTTEL exhibited the brain of an infant, and remarked upon it as follows:—

The specimen I present here, Mr. President, was taken yesterday from an infant, 8 or 10 days old, that suddenly died at Bellevue Hospital with scarcely any symptoms. This is a case that would baffle the medical

coroner, if he were called to decide upon the cause of death, especially when there is suspicion of infanticide. There was nothing particular in the external appearance of the child, and all the internal organs were found in a remarkably healthy condition. You are aware, Mr. President, that sometimes, after quite a normal labor, a child can be stillborn, and the post-mortem examination will find no cause for death. The same can happen in the first days or weeks, or even months after birth. The child dies with very obscure symptoms, if any at all, and the autopsy shows no morbid condition of any organ or tissue, and death in such cases is often ascribed to *general debility*. But speaking candidly there is no evidence for such an assertion. We find sometimes a slight anæmia or some hyperæmia of the brain or its membranes, but no changes incompatible with life, and we are, therefore, not justified in ascribing the deaths to any particular cause. In such cases the microscope alone can reveal the real cause of death, and show the enormous changes which have taken place, especially in the white substance of the brain, as can be seen in any microscopical section taken from this specimen. We find accumulations of granule-cells or granule-globules lately described by Virchow, for the explanation of which I must say a few words with regard to the whole pathological process. Formerly the brain and spinal cord were considered as consisting of nothing else but specific nervous elements: ganglionic cells and nerve-fibres. Afterwards Purkinje and Valentine described the epithelium of the ventricles under the name of ependyma, but Virchow in 1853 showed, that besides the nervous elements, there are others belonging to the connective tissue group, which he named *neuroglia*. He showed, moreover, that in the nervous centres, just the same as in every other organ, we must make a distinction between pathological processes affecting the specific elements (parenchymatous processes), and those taking place principally in the interstitial connective tissue (interstitial processes). For instance, what the French call *ramollissement jaune* (yellow softening of the brain), is nothing else but fatty degeneration of the cells of the neuroglia, but not of the ganglionic cells. In cases of stillborn children, or many of those who died in the early period of life, we find the cellular elements of the neuroglia increased in size (hypertrophy), then increased in number (hyperplasy), and finally undergoing fatty degeneration, so that instead of single cells of the neuroglia, we find in these cases accumulations of granule-cells or granule-globules. In fact, we have interstitial encephalitis and interstitial myelitis, which explain the cause of death. Virchow found such diffuse interstitial encephalitis and myelitis in the infant, either accompanying constitutional syphilis of the parents or the acute exanthemata, especially small-pox of the mother, puerperal and other constitutional disturbances of the mother. He thinks that in those cases where the infants do not die, this condition of the nervous centres may possibly be the starting point for subsequent idiocy or infantile paralysis. Græfe has lately described a peculiar sloughing of the cornea of both eyes in infants, where at the post-mortem such a diffuse interstitial encephalitis has been found by Cohnheim and Hirschberg.

I wish, Mr. President, to call the attention of the profession to this most frequent cause of infantile mortality, so much the more that it cannot be recognized by the naked eye, although it is very easily detected with the microscope, as in the specimen which I present here.

2. *On the Seat of Epilepsy.* Dr. BROWN-SÉQUARD.

[*Boston Med. and Surg. Journal*, Feb. 18, 1869.]

At the Académie Impériale de Médecine, Jan. 5th, 1869, Dr. Brown-Séguard communicated the results of some new researches he had made in relation to the effects of lesions of the spinal marrow. He reminded the Academy that twenty years ago he had produced in guinea-pigs epileptic or epileptiform symptoms by cutting through one of the lateral portions of the spinal marrow in the vicinity of the tenth dorsal vertebra. Three weeks or a month subsequently, the animals which had undergone this operation were seized with veritable epileptic "crises." To bring on these attacks, it was sufficient to irritate the skin of the face or neck. Later, the spasms manifested themselves spontaneously, and occurred several times a day.

Dr. Brown-Séguard has recently repeated his experiments with variations. He has ascertained that epilepsy can be artificially produced not only by the section of either half of the spinal marrow in the vicinity of the tenth dorsal vertebra, but also at points higher up, and nearer to the medulla oblongata. He has seen the attacks come on after double section, likewise; and, also, the production of convulsions in the muscles which are supplied with nerves proceeding from the segment of the spinal cord included between the two sections. The new experiments demonstrate, their author claims, that the greater part of the spinal cord has an active share in the production of epileptic convulsions.

At the session of the 12th of January, Dr. Brown-Séguard said that he had collected together, in a book published in 1857, twelve or thirteen cases of diseases or traumatic lesions of the spinal marrow, which diseases or lesions had produced epileptic symptoms. But, he does not infer from those facts that the spinal marrow was the seat of the epilepsy. He merely believes that the cord, under the influence of certain lesions, becomes the seat of a special modification, in virtue of which there are produced elsewhere organic troubles from which result the epileptic phenomena.

The Professor, in presence of the Academy, experimented on four Guinea-pigs which he had subjected to section of the spinal marrow about two months previously. One of these animals, which had had its spinal cord cut on both sides, went through attacks of convulsions when the two (*les deux*) sides of the face or neck were pinched. Those which had undergone unilateral section merely, had the symptoms only when the skin of the side operated on was irritated. Dr. Brown-Séguard showed besides a female Guinea-pig which had been impregnated a short time after section of the cord. The mamma of the paralyzed side secreted milk more abundantly than that of the well side.

At both sessions of the Academy, when our *savant* set forth his researches upon epilepsy, there was some discussion, on the part of different members, as to whether the convulsions artificially produced in the Guinea-pigs were really epileptic. Relative to the fact observed by Dr. Brown-Séquard of the turgescence of the mamma on the paralyzed side in a female Guinea-pig, M. Gubler stated that he had noticed and reported analogous phenomena as occurring in conjunction with paralysis in the human subject—i.e., hyperæmia of the lachrymal and salivary glands accompanying facial paralysis.

Dr. Brown-Séquard remarked that he had once had a good deal of doubt about the epileptic nature of the symptoms which he had brought out in animals; but after long comparative study, he had arrived at the conviction of the identity of the disease in man with the symptoms produced in his experiments. In reply to objections founded on certain distinctions which Dr. Chauffard had attempted to set up between the two classes of lesions, he declared that "loss of consciousness" was produced in the animals artificially made epileptic; and as to the question of epileptic anæsthesia, he could pinch the creatures, prick them, burn them during the attack, without determining other phenomena than movements due to reflex action. These latter phenomena have been perfectly well established as occurring in the human epileptic. There exist in epilepsy artificially induced, the three principal characteristics of epilepsy in man—viz., loss of consciousness; convulsive action; and intellectual torpor following the attack.

### 3. *Changes in the Nervous System which follow the Amputation of Limbs.* By Dr. W. H. DICKINSON.

[*Amer. Jour. Med. Sc.*, Jan., 1869; from *Jour. Anat. & Phys.*, Nov., 1868.]

Dr. W. H. DICKINSON publishes some investigations he has made relative to the changes which occur in the nervous system after amputation of the limbs. He expected to find that the portion of the encephalon which regulated the movements of each limb would be declared by a localized atrophy consequent on its removal. He failed, however, to discover any such lesion or any change of structure either in the cerebellum or great ganglia of the cerebrum. He next sought to trace evidence of change by commencing at the stump and working upwards. Three cases are related in which he made careful examinations of the subjects.

"Placing together," he says, "the several observations, it appears that when a limb has been absent, as the result of operation, for twenty or more years, the following changes have been found in the nervous system.

"First, atrophy of the nerves of the stump, of which a large proportion of the fibres have perished, notwithstanding that, supported by the fibrous tissue which enters into their structure, they retain their bulk and external appearance almost without alteration.

"Secondly, wasting of the nerve-roots, especially the posterior. The wasting of the tubes, in the absence of such fibrous investiture as belongs to the mixed nerves, produces an attenuation, which in the case of the posterior root is very conspicuous.

"Thirdly, a slight loss of bulk in the gray matter of the cord, on the side of the lost member, near the origin of its nerves, without any intimate change discernable by the microscope.

"Lastly, a remarkable shrinking of the posterior column of the cord on the side of the mutilation, attended by a condensation of areolar tissue. The atrophy extends upwards, and in the case of the loss of an arm can be traced into the medulla oblongata as far as the upper limit of the decussation of the pyramids.

"The cerebrum and cerebellum remain unchanged.

"I am aware that many details relating to this subject remain to be worked out, and I should have waited for further opportunities had not my purpose been forestalled by M. Vulpian, who has, since these observations were made, published two similar cases.

"His results differ very materially from mine. Both the cases he reports were amputation of the leg, a little distance above the ankle. In one case the leg had been removed for 47 years, in the other for 20 years. In both cases M. Vulpian describes the spinal cord as slightly lessened in bulk on the side of the amputation. This diminution affected the gray matter generally, the white matter *with the exception of the posterior column*.

"The cells of gray matter were not altered in character, or appreciably in number. In one of the cases some spots of disintegration were supposed to exist in the gray horn. No changes were detected in the nerves or nerve-roots.

"My results differ from those of M. Vulpian in the atrophy of the nerves, posterior nerve-roots, and posterior columns of the cord, which were found in my cases but not in his. His cases and mine coincide in attributing a slight loss of bulk to the gray matter on the one side of the mutilation.

"Dr. Waller long ago pointed out that nerves separated from their centres rapidly became atrophied. With regard to the spinal roots in particular he found that when an anterior root was cut the part retaining its connection with the cord remained unaltered, while the outer extremity wasted. After dividing a posterior root the reverse took place; the central end wasted, the peripheral end retained its structure. From these and other experiments, Dr. Waller was led to conclude that the outer portion of the severed posterior root owed its retention of structure to the ganglion to which it was attached, while the nutrition of the motor root depended on the cord.

"The facts brought forward in this paper appear to show that these conclusions need modification. It would seem that the posterior root may waste though still in connection with the ganglion, the anterior though still in connection with the cord. The ganglion therefore is not the sole controller of the nutrition of one root, or the cord of the other. It appears that long disuse of a nerve is sufficient to lead to its atrophy notwithstanding that those nervous structures which more immediately regulate its nutrition are complete.

"There are some points which as yet may be left without explanation, namely the greater atrophy of the sensory than of the motor roots, and the peculiar wasting of the posterior columns, passing vertically up the



cord, and in the case of loss of the arm affecting the medulla, a course not corresponding with that of the sensory fibres, which soon lose themselves in the gray matter."

4. *On the Mode of Formation of Blisters.* By A. v. BIESIADECKI, Vienna.

[*Archiv für Dermatologie u. Syph.* 1869, p. 120; from *Sitzber. d. k. Akad. d. Wiss. in Wien.*]

It is generally supposed that the formation of blisters in burns of the skin consists in an accumulation of serum below the *unaltered* Malpighian stratum and the epidermis. The serous exudation from the corium is supposed, by osmosis of the epithelial cells, to be deposited on the surface, where it cannot penetrate the horny layer of epidermis and therefore lifts it up in the form of a bleb. So active a participation, however, of the epithelial cells directly exposed to the heat, such as KLEBS also assumes as probable in his Treatise on Pathological Anatomy, does not take place. The process of vesiculation after the first degree of ambustion, according to the investigations of BIESIADECKI, is shown to be as follows: First of all, a considerable dilatation of the blood vessels takes place at those parts of skin exposed to heat, which is almost immediately followed by a serous exudation. This exudation penetrates the tissue of the cutis, and also enters the mucous layer, where by traction it elongates the epithelial cells which adhere firmly to the surface of the corium, and finally draws them out to fine threads in which the nuclei of the former cells become wholly undistinguishable. This takes place the more easily, because the exudation cannot penetrate the cornified epidermal layer, but must raise it up, and as the youngest cells of the Malpighian stratum adhere pretty firmly to the corium surface, they are still more drawn out by the loosening epidermis.

It results, therefore: (1) That the cells of the Malpighian stratum do not actively participate in the formation of blisters, it being impossible that by an active process within the cell the latter could be elongated even to rupture. (2) That the cells of the Malpighian stratum are not favorable for osmosis, as they else would take up at least a portion of the exudation. (3) The described alteration of the cells presupposes that they consist of a soft, yielding protoplasmic substance, wherefore the lower cells only of the mucous layer become elongated. (4) This investigation shows that the blisters may be locular, like pustules, and that the septa are formed from epithelial cells.

## Editorial.

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### PROF. HODGEN'S SNARE.

We have before us a short article\* from the pen of Dr. THEODOR BILLROTH (now the honored teacher of surgery at the first surgical clinic of the University of Vienna), extracted from the *Deutsche Klinik*, 1859, No. 32, describing and illustrating "a new instrument for the extraction of foreign bodies," especially from the external meatus of the ear, but also suggested to be used in the urethra. This instrument, invented by Mr. HILGENDORF, student of medicine, is based upon the same idea as the "snare" Dr. HODGEN is using, and which was figured and described in this Journal of last year (1868, Vol. V., p. 501). Priority undoubtedly belongs to the two former gentlemen, as compared with the latter, though it would be surprising if so simple and pretty an idea could not be found hidden in some other little instrument of much earlier date, if search were made; originality, however, belongs to Dr. HODGEN equally. There is, besides, some little difference in the construction of the two instruments, which, in the case of the urethra, for which that of Dr. HODGEN was specially designed, will undoubtedly secure superiority to the latter. The snares of Dr. BILLROTH consist of "thin watch-springs," one of them attached to the end of the canula, the other to the shaft which can be turned so as to bring the second snare at right angles to the first by a screw in the handle, when the two shall have been passed by the foreign body in their originally parallel position. Dr. HODGEN's snares are of round wire, which is far more likely to pass the body than the flat spring; they are held parallel by the conformation of the passage, and are allowed by their own elasticity to assume the position at right angles to each other given them by the instrument maker.

In the *Medical Times and Gazette*, of March 7, 1868, Mr. J. HUTCHINSON also advocated the use of a loop of fine wire for

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\* Presented to us by Dr. HODGEN, to whom it had been mailed, it is presumed, by the distinguished author.

the removal of foreign bodies from the ear. From the context of his remarks it seems not likely that he was aware of the existence of Dr. BILLROTH's instrument, or any similar invention based on the same idea.

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#### THE ORIGIN OF TUBERCULOSIS.

Referring to our previous article in the January number, in which we communicated Dr. WASHINGTON's letter on the experiments of COHNHEIM (and FRÄNKEL, the associate in his labors), we deem it a matter of some importance to lay before our readers the actual conclusions these two experimenters deemed themselves warranted in expressing. They are embodied in an extended article in *Virchow's Archiv*, Bd. XLV., p. 216; and we take pains to transcribe their own words (pp. 227-229) as literally as possible:

"No one, indeed, can be less inclined than we, to draw too far going conclusions from our experiments, but we do believe that the whole series of them and especially the three performed on dogs, in which we are unable to discover any essential sources of error, justify and compel this conclusion: that it is really *the necrosed and inspissated pus, to the reception of which into the circulation tuberculosis owes its origin*. This assumption fully explains all facts which have come under observation in our entire series of experiments; and the results of all other experimenters may also, we think, be interpreted in this way without constraint. Every inoculation, in the rabbit or Guinea-pig, at whatever place performed, or with whatever material, must have produced conditions under which an accumulation and subsequent inspissation of pus could take place, and therewith, as we assume, the possibility of tuberculosis being developed; in the dog, on the other hand, where, as is well known, such inspissation of pus very rarely occurs, the production of tuberculosis has for that reason been effected in so few cases only, and one seems to be certain of success only when the necrosed thickened pus is introduced directly into the circulation of the animal. At first sight, it might appear paradoxical, that so striking a fact as the development of general tuberculosis in consequence of the inspissation of pus should not long be known, when every physiological laboratory offer daily opportunity to verify it; at the same time, it should

be considered how rarely anybody may have taken the trouble to search out the exact post-mortem appearances of animals that died several weeks after the experiment for which they served. This much is indeed well known to physiologists, that rabbits in whom the sympathetic nerve in the neck was cut, usually perish five, six, or eight weeks later; henceforth it will be of interest to investigate the cause of death in these animals, and it will be, so to speak, a test of our deduction, whether or not pulmonary tuberculosis will be found in a large number of the animals that have thus died.

"We justly hesitate, however, to draw still farther conclusions from our experiments . . . . Firmly as we dare to maintain our conception of the history of tuberculosis by inoculation, or, as we may well say, '*traumatic*' tuberculosis, we desire to be as cautious for the present in our conclusions as to the '*idiopathic*' tuberculosis, so to speak, of man.

"Just as little do we venture an opinion as to what is the active element in the inspissated, necrosed pus,—whether it is the free, highly refractive granules, or the shriveled pus cells, or perhaps a chemical substance held in solution; only, in view of the well-known, very different effects of the injection of fresh pus into the veins of dogs, we think we must lay particular stress upon the fact that it is *necrosed* [*'abgestorbener'*—dead, decayed] pus. Moreover, we have in nowise got nearer to a solution of the question, so much discussed in these latter years, of the relation of tuberculosis proper to the so-called caseous pneumonia. It is true, we have repeatedly found in the lungs of our Guinea-pigs, along with the tubercles, the presence of more or less extensive, dry and tough, yellowish-white hepatisations which presented not a little similarity to what in man is designated as cheesy pneumonia. We regard this question, however, as much too intricate to be settled thus casually by a few isolated experiments, as it is still in doubt, besides, if the lungs of rodents are the proper objects for this purpose. Finally, we do not venture the slightest attempt to explain, by means of the material thus far actually brought before us, the mechanism of the occurrence of tuberculosis and its extension over the organism."

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## MEDICAL BIBLIOGRAPHY.

Some interest will be manifested by American readers, at this time especially when the question of medical education is again prominent on the *tapis*, in the report of Dr. VALCOURT to the French Minister of Public Instruction on the Medical Institutions in the United States, which is published in an 8vo. volume by Delahaye, Paris. It may be well for us, occasionally, to take a look at ourselves through the spectacles of a foreigner.

"Medicine in Modern Times" is the title of a collection of discourses delivered before the last meeting of the British Medical Association by STOKES, NELAND, ROLLESTON, HAUGHTON, GULL, together with the report on mercury by Dr. HUGHES BENNETT, published by Macmillan, London. The Nomenclature of Diseases, drawn up by a joint committee, and approved by the Royal College of Physicians of London, is issued in a royal 8vo. vol. of xxiv and 327 pp.; it is also being reprinted by Lea, Philadelphia.

A little historical essay by ANGLADA is published by Baillièrre et fils, under the attractive title: "Studies on Extinct Diseases and New Diseases, a contribution to the history of the secular evolutions of pathology."

The French Government has lent its aid to the useful undertaking of publishing a monthly bulletin of photographs of cases occurring in the practice of the Paris hospitals, by furnishing them a special photographic establishment; the work is entitled "*Revue Photographique des Hôpitaux de Paris*, and edited by MONTMÉJA and RENGADE. The first number contains 16 pp. 8vo. and 3 photographs.

*Anatomy and Physiology.*—A new illustrated work on surgical anatomy is that of ANGER: *Nouv. éléments d'anatomie chirurgicale*, 8vo., with figures, and colored atlas in-4to, Baillièrre et fils. Of ROBIN'S *Anatomie microscopique* another part has appeared, treating of the tissues and the secretions.

CARPENTER'S Human Physiology is out in a seventh, much enlarged edition, edited, like the sixth, by POWER. A reprint of "The Brain and the Mind" by Dr. THOS. LAYCOCK, is announced by Appleton. MEYER (Dr. A. B.), *das Hemmungsnervensystem des Herzens*, is a critical and experimental study on the inhibitory nervous apparatus of the heart, pp. 103 8vo., Berlin.

*Pathological Anatomy.*—The Pennsylvania Hospital has published a descriptive catalogue of the Pathological Museum, ably arranged by Dr. WILLIAM PEPPER, the Curator and Pathologist to the Hospital; the system of classification is nearly that used in the catalogue of Guy's Hospital Museum; it forms a handsome 8vo. vol. of about 140 pp., and is for sale by Lindsay & Blakiston.

V. Masson et fils have commenced the publication of an Atlas of Pathological Anatomy by LANCEREAUX and LACKERBAUER, of 50 plates and 300 pp. of print, in 12 numbers, the first of which is now ready, price 5 francs. G. Baillièrre issued the first part of a Manual of Pathological

Histology by CORNIL and RANVIER. We note also two French monographs: CHEVILLON, General Study on the so-called Amyloid Degeneration; and BOUCHARD, on the Pathogenesis of Hæmorrhages.

*Medical Practice.*—A third fasciculus of the work of Prof. SPRING, Liège, on Symptomatology, is advertised by LeFrançois, Paris.—the work to be completed in 6 parts, of 250-300 pp. each.

The second fasciculus of the 2d series of CHARCOT's Lectures on the Diseases of the Aged and on Chronic Diseases (with three chromolith. pl., Delahaye), treats of Cerebral Hæmorrhages. Dr. WALDENBURG, of Berlin, has written a treatise of some size on "Tuberculosis, Pulmonary Phthisis, and Scrofula, according to historical and experimental studies," 8vo., pp. 572. We note, besides, the following French titles: DAMASCHINO, *De la pleurésie purulente*, 174 pp. 8vo., G. Baillière;—MAHOT, *Des battements du foie dans l'insuffisance tricuspidale*, Delahaye;—CORNIL, *Des diff. espèces de néphrites*, 175 pp. 8vo., G. Baill.; the first and last named being "thèses pour l'agrégation." Mr. Lea announces a reprint of PAVY's work on Digestion.

NEUMANN's brief treatise on Skin Diseases, published by Braumüller, Vienna, is being well received by the press, and acquires some importance from the fact that it is said to be a reliable exposition of HEBRA's views, whose larger work is yet only half finished. The latter is being translated into French by Dr. A. DOYON, under the supervision of the author, and published by V. Masson. Dr. DAMON, of Boston, has completed another series of six of his Photographs of Skin Diseases,—J. Campbell. Dr. BEIGEL, of London, has written: "Human Hair; its structure, growth, diseases and their treatment;" illustrated, 152 pp. 8vo.

*Surgery.*—Churchill, London, have issued "MARSDEN, A new and successful mode of Treating certain forms of Cancer;" 8vo. An article by Prof. MAISONNEUVE, "*Mémoire sur les intoxications chirurgicales*," is published by Delahaye. The following monographs have lately been advertised: HEINEKE, the Anatomy and Pathology of Mucous Bursæ and the Sheaths of Tendons. 140 pp. 4to., Erlangen;—COLAS, on the Essential Contractions of Extremities and their relation to rheumatism, LeFrançois, Paris;—HENNEQUIN, Remarks on Continued Extensions and on Pain in Coxalgia (to which a prize was awarded by the Faculty of Medicine of Paris), Delahaye; DENAMIEL, *Traité de Lithothripsie*, a new method of crushing stone in the bladder, Delahaye. The same firm is publishing a Treatise on Operations on the Urinary Passages by Dr. RELIQUET, a first part of which is out, 8vo., ill., Delahaye.

M. AUZIAS TURENNE has written what we take to be a controversial discourse entitled "*Les Virus au tribunal de l'Académie et dans la presse*," Baill. et fils.

Prof. E. v. JAEGER, of Vienna, has prepared an "Ophthalmoscopic Hand-Atlas," containing 25 chromolithogr. plates, and 256 pages gr. 8vo., Vienna, price at present rates of importation \$11.00 gold. The more important announcements of special labors in this branch are: KNAPP, on Intraocular Tumors, ill. by 70 drawings on 15 lithogr. and 1 chromolith. plates, Müller, Carlsruhe; — v. HASNER, on the "Statopathics" of the

Eye, 3 lith. pl., Tempsky, Prague; — BOUSSEAU, on Secondary or Symptomatic Retinitis, 4 col. plates, Delahaye, Paris.

*Obstetrics. Diseases of Women.*—The first of two volumes of a "*Cours d'accouchements*" by HUBERT, Louvain, is announced by Baillière et fils. By Delahaye: MONTFORT, a Study on Ruptures of the Vulva and Perineum during labor, 100 pp. 8vo.; and HAMON, "*Manuel du rétroceps*," the description and directions for the use of a new "asymmetrical forceps" the author calls "retroceps."

GRAILY HEWITT's work is out in a German translation by BEIGEL. A new edition of THOMAS is noticed elsewhere in this number. Of NONAT's *Traité prat. des maladies de l'utérus*, a second edition, rewritten and considerably augmented with the assistance of Dr. LINAS, is being printed by Delahaye, one part of 543 pages being now ready. In Berlin appeared: KRIEGER, Menstruation,—a gynæcological study, 204 pp. 8vo. A new work by Dr. MATTHEWS DUNCAN, which the *Edinb. Med. Journal* calls "in some respects the most important" of his volumes, on "Perimetritis and Parametritis," has been issued by Black, Edinb.

*Materia Medica and Therapeutics.*—Dr. JOHN HARLEY's valuable Gulstonian Lectures for 1868, on the physiological action and therapeutic uses of hemlock, opium, belladonna, and henbane, will be issued in book form by Macmillan, London, under the title, "The Old Vegetable Neurotics." The value of this work is known to our readers from the extensive extracts we laid before them last year. Among the French announcements we note only: MICHALSKI, on the Hypodermic Method, 8vo., Delahaye.

*Hygiene.*—CAMERON's Lectures on the Preservation of Health (Churchill, London, 1868,) have received a favorable notice from the *Edinb. Journal*. KIRCHNER, *Lehrb. d. Militär-Hygiene*, is announced by Enke, Erlangen. In London was published a work on Disinfectants and Disinfection, by ROB. ANGUS SMITH, PH. D., 138 pages 8vo.

#### NATIONAL CONVENTION FOR THE REVISION OF THE UNITED STATES PHARMACOPŒIA.

At the meeting of the Convention, held in May, 1860, the following resolutions were adopted:

1. The President of this Convention shall, on the first day of May, 1869, issue a notice, requesting the several incorporated State Medical Societies, the incorporated Medical Colleges, the incorporated Colleges of Physicians and Surgeons, and the incorporated Colleges of Pharmacy throughout the United States, to elect a number of delegates, not exceeding three, to attend a general convention to be held at Washington, on the first Wednesday in May, 1870.
2. The several incorporated bodies, thus addressed, shall also be requested by the President to submit the Pharmacopœia to a careful revision and to transmit the results of their labors through their delegates or through any other channel to the next convention.

3. The several medical and pharmaceutical bodies shall be further requested to transmit to the President of the Convention the names and residences of their respective delegates, as soon as they shall have been appointed, a list of whom shall be published under his authority for the information of the medical public, in the newspapers and medical journals in the month of March, 1870.

In compliance with the above resolutions the President of the Convention announces that a meeting will be held in Washington, D.C., on the first Wednesday in May, 1870, and requests that the several incorporated bodies shall, after a revision of the U. S. Pharmacopœia, send the results of their labors to the Convention; and further requests, that they transmit to the President the names and residences of their several delegates, as soon as elected. that the list may be published.

GEORGE B. WOOD,  
*Pres. Convention of 1860.*

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*DR. BENJAMIN FRANKLIN SHUMARD.*

It becomes our painful duty to chronicle the death of this eminent man (once a valued collaborator of this Journal), which took place on the 14th of April. Esteemed as a physician, having during the last years of his life filled the chair of Obstetrics in the Missouri Medical College, far famed throughout the scientific world as a geologist and palæontologist, a corresponding or honorary member of many scientific associations in the United States and in Europe, honored and beloved at home as the President of the Academy of Science of St. Louis, an office to which he was re-elected at the beginning of this year when his lingering illness had already taken away all hope that he would ever again personally preside over the meetings of that body,—his bright name will not soon be forgotten among us.

The members of the medical profession of St. Louis, at a called meeting, adopted the following preamble and resolutions:

The occurrence which convenes us together to-day is one of no ordinary character—one of our most highly esteemed members has been removed from us; in the prime of life, in the midst of professional usefulness, and whilst actively engaged in scientific pursuits, DR. B. F. SHUMARD has been called by death to lay aside the labor and honors of this life to enter upon those of a higher one. The halls of science will hear his voice no more, and we shall not again behold his face in our midst. When such a man as DR. SHUMARD dies it is fitting that those who labored with him, who appreciated his worth and knew his virtues, should pause around his bier to give expression to the high estimation in which he was held, and to record some token to his memory. Therefore,

**RESOLVED**, That in the death of DR. SHUMARD science has lost one of her most ardent votaries, the medical profession one of its most honorable and useful members, and society one of her brightest ornaments.

**RESOLVED**, That in token of respect to his memory, we will attend his funeral in a body.

**RESOLVED**, That we tender our sympathy to his afflicted family.

**RESOLVED**, That these proceedings be spread upon the minutes of the SAINT LOUIS MEDICAL SOCIETY, and that the Medical Journals and papers of the city be requested to publish the same.



METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1869.

MARCH.			APRIL.		
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	26.0	52.0	1	48.0	57.5
2	32.0	51.5	2	30.0	42.0
3	32.5	35.0	3	30.5	44.5
4	14.0	23.5	4	<b>28.0</b>	52.0
5	9.5	32.0	5	40.0	59.5
6	<b>4.5</b>	20.5	6	44.0	61.0
7	14.5	32.0	7	34.0	62.5
8	30.5	41.5	8	46.0	75.5
9	33.0	39.5	9	50.0	72.0
10	27.0	34.0	10	41.0	50.0
11	23.0	28.0	11	33.0	54.0
12	22.0	56.0	12	37.0	47.0
13	28.0	51.5	13	30.0	46.0
14	21.0	39.0	14	30.0	59.5
15	12.5	28.5	15	45.5	67.5
16	15.0	31.0	16	55.0	61.0
17	20.0	41.0	17	40.0	71.0
18	29.5	42.0	18	54.0	<b>84.0</b>
19	33.0	56.5	19	53.0	70.0
20	38.0	41.0	20	45.0	61.5
21	34.5	45.0	21	42.0	71.5
22	31.5	39.0	22	56.0	81.0
23	30.5	56.0	23	59.5	80.0
24	40.0	56.0	24	50.0	65.0
25	41.0	51.5	25	47.5	53.0
26	45.0	56.5	26	49.0	76.5
27	43.0	<b>78.0</b>	27	50.0	80.5
28	50.0	61.5	28	59.5	79.5
29	43.0	<b>78.0</b>	29	54.0	70.5
30	35.0	59.5	30	44.0	52.5
31	44.0	60.5			
Means....	29.1	45.6	Means....	44.2	63.6
Monthly Mean...	37.3		Monthly Mean...	53.9	

## REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM  
MORNING TILL NIGHT, AT ST. LOUIS, MO.

### 1.—Monthly Mean of Positive Atmospheric Electricity.

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 9 years.	No. of Thunder Storms.	Prevailing Winds.
1869.	Mar.	8.0	5.1	5.5	3.6	3.0	2.5	4.6	7.7	2	SE. NW. NE.
1869.	Apr.	1.8	2.2	2.3	0.6	1.0	1.7	1.6	5.4	8	SE. NE. NW. SW. <u>SW.</u>

### 2.—Monthly Mean of Temperature, Fahrenheit.

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	March.	32.9	37.4	43.1	46.0	41.7	38.2	39.9
1869.	April.	48.1	55.1	60.3	62.4	58.3	53.4	56.3

### 3.—Monthly Mean of Relative Humidity.

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	March.	88.6	75.2	66.9	65.6	72.6	79.4	74.7
1869.	April.	78.3	64.5	52.5	47.7	57.5	66.7	61.2

The temperature of March was 37.3, about 7 degrees lower than its mean average, 44.4. The temperature of last January was 37.2, so that January and March were about equally warm. This is one of the many irregularities that have characterized the past winter. The quantity of rain in March, inclusive of melted snow, was 4.24; the average is 3.81. March proved to be decidedly more a winter month than a beginning of spring.

April opened also with a cold spell, but it gradually waxed warmer and gave us the average temperature of 53.9, its mean average being 56.1. The quantity of rain in April was 4.61, the average being 3.97. Several attempts of snowing in the beginning of the month were unsuccessful, but on the 19th we experienced a series of thunder storms, and a hail storm that will for a long time be remembered by the oldest inhabitant. The splendid aurora borealis, which in the evening of the 15th was seen over the east of the United States, was not observed so far west, neither did my Electrometer on that evening give any indications of it, as it generally does by sudden increase and fluctuations in the positive atmospheric electricity. The month was on the whole very favorable to vegetation. About the middle of April all fruit trees were in full blossom, and towards the end the forest had put on again its garment of spring.

Both March and April were healthy months. In April measles and rubeola prevailed among children, but the disease was very mild and required scarcely anything but expectative treatment on the part of regular physicians, while other practitioners performed wonderful cures by infinitesimal doses. Vive le "humbug!"

THE SAINT LOUIS  
Medical and Surgical Journal.

JULY 10, 1869.

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Original Communications.

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*CASES OF PARACENTESIS OF THE BLADDER.*

By C. D. OWENS, M.D., Grand River, D. T., Sioux Indian Reservation.

Paracentesis of the bladder for the relief of retention of urine, though not an exceedingly rare operation, is nevertheless sufficiently so to demand from us a careful consideration of the circumstances attending each individual case,—the necessity for such a procedure involving the previous existence of various interesting pathological conditions connected with the urino-genital apparatus.

In consulting surgical works upon this subject, I find the following remarks by Dr. S. D. GROSS :

When the bougie, catheter, and other means have failed to procure relief, the only thing that remains is to puncture the bladder. Fortunately the operation is seldom necessary. It is only in cases of excessive enlargement of the prostate gland, attended with great swelling and tenderness of the surrounding parts, in laceration of the urethra, infiltration of urine into the scrotum, and in deep-seated, impassable stricture, that the operation should ever be seriously thought of. I have myself been obliged to perform the operation but once, and then the case was not my own.

In regard to the length of time it would be safe to defer the operation, no definite rules can be laid down. As remarked by Dr. BUMSTEAD,

Each case must be determined by itself, from a consideration not only of the time retention has lasted, but also of the patient's age, strength, and general condition, the urgency of his symptoms, the danger of rupture of the bladder or urethra, and the risk of injury to his kidneys.

From the same source are collected the following excellent observations on this point, by Mr. THOMPSON :

There are some surgeons who appear to think as long as a patient under the influence of complete retention presents no very urgent constitutional symptoms, it matters little how much his bladder be distended, an almost indefinite amount of endurance being ascribed to that organ. That this is very great, is not to be denied, and the extreme rarity of rupture from this cause, which at length takes place, as we have seen, rather by ulceration than by mechanical distention of its coats, is invariably referred to as evidence in favor of such an opinion. But it is certain that very mischievous consequences may result from extraordinary distention (rupture of the urethra and extravasation of urine being passed over as sufficiently obvious), in its effects upon the kidneys, not merely in the way of temporary interference with the performance of its function as a depurating organ, but in the lasting injury it is conceived that a few hours of extreme pressure and dilatation may exert on its structure. This is so much the more readily susceptible of injury, as compared with the bladder, as the secreting organ exceeds the muscular reservoir in complexity, delicacy, and intricacy of construction. We may not, therefore, continue safely our baths, opium, purgation, etc., to the extreme limit of endurance on the part of the bladder. Our care for the patient must extend beyond that point, and if from his history and condition we have reason to believe in the existence of organic renal disease, *or only to suspect* its presence, we shall not be warranted in quietly waiting beyond the time necessary for the exhibition of appropriate medical treatment, and the careful use of the catheter, for all of which a few hours will suffice, supposing, it is of course understood, that his powers of life at first admitted of the pursuance of that course.

Dr. BUMSTEAD remarks in this connection :

But while admitting the importance, and even the necessity of resorting to an operation, when such results are at stake, it must not be supposed that the cases in which it is required are numerous. It would probably be very near the truth to say that it is never necessary when the patient has from the first been under the care of an intelligent and competent surgeon; and that retention can always be relieved, within a certain period of its commencement, by other and milder measures. Unfortunately, assistance is not always sought from those competent to give it, until this period has either been passed in neglect or mismanagement.

Surgeons are, I believe, uniform in giving preference to the recto-vesical puncture over the operation of tapping the bladder above the pubes, or through the symphysis, for the relief of retention. In presenting these opinions of the authors above mentioned upon this important subject, it is my desire to fortify my own mind with reliable and trustworthy information, the better to enable me to support some opinions I hold upon this subject, concerning which the above extracts bear me out in part.

It became necessary for me to perform paracentesis of the bladder upon three several patients, the necessity arising in one of these cases for a repetition of the operation. Of the two first cases I will only remark, that they were both cases of excessive retention of urine—the first case being complicated with urinary fistula and extravasation into the scrotum, seen and operated on by me in civil practice previous to the war, and resulting from an old stricture seated at great depth in the urethra; and I may further remark that the patient was under other hands than my own before the disease reached this crisis. What is especially instructive in the history of this case is, that there was a subsidence of inflammatory swelling in the neighborhood of the stricture following the operation of tapping the bladder through the rectum, which condition existed at the time I saw the patient, immediately before operating, from which fortunate result I was enabled to relieve the stricture subsequently by simple dilatation. The second occasion that I was called upon to perform paracentesis of the bladder occurred in my military practice. As this case is peculiar in some of the features presented, I will relate it somewhat at length.

It is very seldom, I should presume, that it would become necessary to perform paracentesis of the bladder from a traumatic injury: at least I have not seen mention of a case similar to the present one, from which reason I am particular to furnish you the details. This case was one of gun-shot injury—a small conical ball entering the lateral-posterior gluteal region, on the left side of the body, and

was found buried just under the skin and superficial integument of the right thigh, about an inch below the ilio-femoral fold at the inner aspect of the limb, from which position it was extracted by a slight incision. Though I have not at hand the notes of this case, I shall endeavor to furnish from memory such data as may repay your patient attention, by directing your consideration to such salient points as were connected with the condition of the patient at the time I first examined him, the method of treatment pursued, and its results.

In the case of traumatic injury to which I have made allusion above, an accurate appreciation of the extent of injury sustained, and a knowledge of the particular tissues or structures involved in the lesion was impossible to be acquired in the necessarily hurried examination immediately following the receipt of the injury.

This patient was a private in the 1st Virginia Cavalry, and was wounded in the Valley of Virginia (Shenandoah) in a battle preceding that of "Fisher's Hill." Upon removal to the field hospital at which I was stationed in charge, the patient complained of a sense of weight, accompanied by great pain, in the region of the bladder and perineum. After extracting the ball, I found upon further inquiry that the patient was unable to pass his urine, a period of several hours having elapsed since the moment of injury to this time. Upon an examination of the bladder, I found that viscus full of urine and painful. Passing the index finger into the rectum, I discovered an unnatural fullness, immediately anterior to the prostate gland, which was fluctuating and painful. Upon inquiry concerning the position or attitude of the soldier at the time of receiving the injury, I ascertained that he was seated in his saddle when he felt himself struck by a ball in the region of the left nates, his side being exposed to the direction described by the ball.

Catheterism, after a few futile efforts, was abandoned from causing great pain, and was not again resorted to, as I deemed it improper to administer chloroform, the patient

having had several attacks of acute rheumatism in which the heart had become manifestly implicated, as was indicated by the evidence furnished by auscultation.

Upon withdrawing the catheter, blood in considerable quantity followed. Administering an opiate at bed time, I did not see the patient until next morning. Upon visiting him then, I found that he had passed the latter part of the previous night in considerable comfort; the bladder had diminished somewhat in size; there was fever and urgent thirst; no tenderness of the abdomen, but region of the bladder still painful upon pressure; blood had passed, but only in small quantity, through the meatus. I could detect no evidence of urine having passed through either the wound of entrance or of exit. Upon my afternoon's visit, great distress was complained of in the region of the bladder and perineum, and a distinctly urinous odor was perceptible. Great pain was also complained of within the wound of exit. Upon examining this, it was perceived that urine was dribbling out of this in small quantity. The patient persisted that there was a foreign body lodged within this wound, which upon exploration proved to be true, a portion of woollen shirt being removed; upon which the flow of urine became somewhat profuse. After two weeks confinement to bed, and the employment of such means as were deemed advisable to restore the flow of urine through the proper channel, and this continuing to be discharged through the wound of exit in considerable quantity, and only sparingly through the penis, upon consultation I had the patient removed to a private house, where I tapped his bladder through the rectum, left in the canula, and had the satisfaction to introduce a No. 6 catheter (gum) five days after the operation of paracentesis of the bladder.

Subsequent dilatation, which was performed by the late Dr. ESTELLE, of Lexington, Virginia, to whose judicious care I assigned the patient in quarters, resulted in a healthy restoration of the injured parts without the formation of a fistula.

It may be interesting to remark, that meeting this man about twelve months after he had recovered from the immediate effects of his wound, he informed me that he had married, and that though the ability to perform the marital act was in no way impaired, he nevertheless believed himself impotent. I cannot say if his fears were verified in this respect or not by a longer experience of married life, as I have entirely lost sight of this case.

CASE 3. In the third case upon which I performed the operation of paracentesis of the bladder, it was with the purpose of relieving that organ from great distention of urine which could not be evacuated by other and less hazardous means. This case occurred in your city, on the 21st day of September, 1868.

Upon that date I was called to see Mr. L. U., a landscape photographer, and being delayed in making my call, I found Dr. JORDAN present upon my arrival, with whom an examination of the patient was made, when it was discovered that he was suffering from retention of urine, the result of a stricture of 8 years standing. After employing the usual medical means to induce a relaxation of the strictured urethra, by the exhibition of nauseating doses of tartar emetic and by the use of the hot bath, and seeing these measures unavailing, it was proposed to send for additional counsel; and there being no objection to the surgical friend whom I recommended, Dr. JOHN J. McDOWELL was called in, when we put our patient under the influence of chloroform, hoping that by its means sufficient relaxation would be induced to permit us to introduce a small catheter. Every style of instrument was employed, but to no purpose. When taking into consideration the history of the case—a stricture of 8 years standing, gradually producing occlusion of the urethral canal, and exerting a deleterious influence upon the kidneys and bladder—it was determined under these circumstances to puncture the latter organ, especially since that viscus was so inordinately distended that the patient had begged to be relieved from his excruciating suffering.



Upon attempting to puncture the bladder through the rectum in the usual site recommended and generally selected—immediately posterior to the middle lobe of the prostate gland—great difficulty was experienced in forcing the trocar through its thickened and indurated coats. A large quantity of urine followed the withdrawal of the trocar, the last flowings of which were turbid with mucus

As the patient had but lately arrived from New York, and could give but an imperfect account of his condition immediately preceding the period when we first saw him, I was inclined to suspect that there was, superadded to the stricture, a congested or swollen condition of the urethra, occasioned probably by physical over-exertion, or the ingestion of some stimulating article of diet; and believed that the urine being allowed to flow off gradually, this hyperæmic condition would subside, when the "*fons malorum*,"—the stricture,—could perhaps be attacked successfully by dilatation; consequently, it was not deemed advisable to leave the canula remaining for any length of time, as it was supposed that sufficient urine would dribble off to relieve the distress on the bladder. And thus after the canula had served its office of conducting off the contents of the bladder, it was immediately removed. Contrary to our expectations (Drs. McDOWELL and JORDAN visiting the patient with me on the following morning), we found ourselves disappointed in the result we had hoped would be accomplished. Little or no urine had been discharged during the period intervening between our last visit, and there existed as great urgency on the part of the patient to relieve the distress occasioned by a distended bladder, as at our previous visit. I attempted to introduce several catheters of different calibres through the passage opened by the trocar, but failed to accomplish my object, as there existed such a thickened and hypertrophic condition of the coats of the bladder that the separate tunics, thus thickened, formed a shield, overlapping each other, and prevented both the egress of urine and the introduction of a blunt instrument.

During the afternoon of this day, I again, as near the former site as possible, performed the operation of paracentesis, and after evacuating the urine, attached a gum catheter to allow a continuous dribbling of urine.

This case, in the further progress of the treatment, proved very embarrassing to me and my associate friends, from the fact that the patient could give but an imperfect account of the history of his case, and there being an evident stricture (though not impassable) situated about one inch and a half from the meatus, and no bulging posteriorly, I was inclined to suspect the existence of a double stricture; and such subsequently proved to be the case.

On the 25th day of September, we put the patient under the influence of chloroform, and determined to operate upon the strictures. I passed a staff (grooved) with some difficulty through the anterior stricture, situated about an inch and a half from the meatus, but could not get its point to engage within the posterior or deeper seated stricture, which seemed to involve the bulbous portion of the urethra. The operation commenced at 4 o'clock, P. M.

The staff being firmly held and the penis put somewhat upon the stretch, I made an incision in the median line on the dorsum of the penis, and after reaching the stricture found this to be of a hard and gristly character, requiring not a little force in the use of the knife to cut through it.

Having cut down upon the staff, and severed the strictured portion of the urethra at this point to the extent of half an inch, our attention was next directed to the deeper stricture—that which involved the bulbous part of the spongy portion of the urethra.

Withdrawing the staff, we again endeavored to succeed in passing several small bougies through the lower stricture, among which the silver wire attached to HOLT'S dilator. The other medical gentlemen present also endeavored, at my request, to accomplish this object, but we all failed to engage an instrument within this stricture.

Passing the staff again, and having the penis firmly held,

I proceeded to perform the perineal section by cutting from without within, by the operation known as the "boutonnière operation." I prefer the latter name, as the operation I performed in this case was essentially a button-hole one, since no manner of instrument that we could select or devise could be made to engage itself within the stricture.

Having cut down upon the point of the staff very carefully and exposed this to view, its point was then passed through the incision thus made, as far as its centre of curvature, when the handle was used as a fulcrum to put the tissues below the curve of the staff slightly upon the stretch. Through the opening thus made we endeavored to find and to explore the urethra in the direction of the bladder, but to no purpose. Nearly an hour was consumed patiently in this endeavor. Two false passages were found, leading to the extent of an inch, and three-quarters of an inch respectively, running in an oblique direction to the normal situation of the urethra, as it is situated at this portion of the penis.

Having the penis and staff firmly held, I continued the incision posteriorly to the extent of half an inch more, following the raphe. The first incisions at this point were only carried through the tegumentary tissues, when by careful strokes with the point of the knife I reached to a depth where we should have found the urethra. But we found none, although again a careful search began and was instituted by all of the medical gentlemen present. Here we were able to expose to view the interior of the urethra, and could both feel and observe the extent of the stricture, which was pearly white and very hard. We also exposed to view portions of these parts occupied by the false passages. I passed a probe somewhat roughly through these latter, and cut them up to as great extent as possible with a delicate probe-pointed scalpel.

It being now nearly night, and as the patient was a very bad subject under the influence of chloroform, I determined to allow some days to elapse before interfering again, should the necessity arise.

The staff was then withdrawn, and I requested Dr. McDOWELL to pass a large sized catheter through the external meatus and bring its point out through the perineal incision, which was readily accomplished.

We then had the patient removed from the table to his bed, and after regaining consciousness, I took a cork and plugged up the end of the gum catheter, which was still left in, expressing the opinion to the gentlemen present that I believed I had either cut beyond the urethra, in the perineal section, or that to some distance posterior to that incision the urethra had become obliterated, and that by plugging up the catheter whose point opened into the bladder per rectum, we would thus prevent the urine from flowing off, and that by the following morning we would have a better opportunity to determine what would become us best to do; as I conceived it very probable that the urine being checked in its flow in this direction would seek the natural passage, and allow us a better opportunity to search for the urethra by the stream distending the canal.

I visited the patient that night and left him feeling comfortable. I again visited him early the morning and found him still doing well. Returning to my office, I proposed visiting him again at 9 o'clock, A. M., that hour having been appointed to meet with Drs. McDOWELL and JORDAN. I was sent for before that hour, and found upon my arrival that the patient had passed nearly a pint of urine through the perineal incision. At the appointed hour we met, when my opinion was decided upon, that we would allow several days to elapse before we proceeded to an instrumental examination. I then expressed the opinion, that by allowing the urine to accumulate we could put our patient under the influence of chloroform, and should enuresis occur during this period, as would likely be the case, we could follow up the stream of urine and dilate the constricted passage.

Thus matters went on favorably, the patient passing urine in large quantity by the opening in the perineum until the 28th inst., when I was summoned to call upon him.

I found him with slight fever, tongue a little furred, skin hot but perspirable, pulse 95; bowels had been bound up for five days as he had been taking morphia during that period; prescribed a saline cathartic. Upon visiting him during the afternoon, found him better, and he asked to be allowed some chicken soup, which I directed to be given him.

Sept. 30th, P. M.—Patient under the influence of chloroform; present, Drs. JOHN J. and HERVEY McDOWELL, JORDAN, ANDERSON, JOHNSON, WARE and others. Patient had been ordered not to evacuate contents of bladder; urine passed out at perineal opening in a very full stream, before we could employ our instrument to explore the passage of the urethra situated between this point and the bladder.

Subsequent efforts to find the passage proved unsuccessful; but so free and unimpeded was the flow of urine that we witnessed issuing through the perineal incision, that I determined to encourage the healing process, since the urethra was well dilated from the section in the perineum to the external meatus, and I felt assured that after granulations occurred the canal would remain patulous.

Oct. 1st.—Passed urine in full stream this morning, a part of which, as the act of micturation began, passed around the catheter which still remained in the penis. I allude here to the silver catheter which was passed in through the meatus (external) and issued through the opening in the perineum.

I then withdrew this catheter and ordered patient to allow urine to accumulate, as I determined that I would endeavor to explore the lower portion of the urethra without administering chloroform, as the patient had been previously unmanageable under its influence.

Oct. 2d.—Could not effect a passage of the catheter or bougie, though every style of instrument was employed. Dr. GREGORY, who had lately received an excellently devised filiform joujou catheter, expressed the opinion, in a consultation I held with him, that this instrument would

adapt itself to the passage heretofore unexplored, and by invitation the Doctor kindly spent over an hour with this design, but failed to achieve the object desired.

I here consulted my friend Prof. WATTERS, for whose sound judgment and physiological research I entertain the highest opinion, and this gentleman visited the patient with me. After detailing the history of the case to him, since it passed into my hands, I expressed to Dr. WATTERS the opinion that by allowing the parts to heal without further instrumental interference, the flow of urine, as this was considerable, would keep the passage patulous. Although I had felt convinced previously to this date, and so expressed myself, that this was the proper course to pursue, yet I felt a desire for obtaining the opinion of such of my friends whom I knew were able to correct any fallacies my own mind might conceive, and I felt no little satisfaction that these opinions should meet the entire sanction and approval of a gentleman to whom the scientific world owes the enunciation of the most startling "fact" that has been proclaimed in modern times. In conformity, then, with this decision, the case was allowed to progress without farther instrumental interference, the urine continuing meanwhile to pass through the entire length of the penis.

Dr. STEELE generously examined the urine, and pronounced that there was no pus or albumen, though it contained a very large quantity of mucus.

Oct. 25th.—From the 2d to the 25th of October the case continued to progress very favorably, the patient often remarking that he had not felt so well, either in body or mind, as he had since the operation had been performed. The incision in the perineum at the latter date had almost closed. No urine passed through it, but continued to be ejected in a full and large stream through the entire penis.

On the 26th of October, by military order, I was hastily summoned to leave your city for this Territory, and upon this morning Mr. L. U. called at my office to bid me adieu. He expressed himself as being almost well.

To Dr. JOHN J. McDOWELL, under whose care I confided the patient at this date, I should be obliged if he would furnish you such additional circumstance as will render the history of this case complete.\*

Concerning the history of the cases above related, I would remark :

CASE 1. In this instance several surgeons of recognized ability had endeavored, by the employment of every conceivable style of instrument, in the form of catheter and bougie, to effect an entrance into the bladder per vias naturales, and in this endeavor had failed. When I saw the patient there were many urinary fistulæ opening through the scrotum. I operated by earnest request of patient, and enjoyed the satisfaction, after performing paracentesis per rectum, to introduce a small slippery-elm bougie not many days after ; which success was followed up by the employment of larger instruments until the patient was discharged well.

Thus it will be readily seen, in this instance, that the real success in effecting an entrance into the bladder through the urethra, and subsequently dilating the constricted portion of this, depended upon diverting the current of urine to a point posterior to the congested neighborhood of the stricture, thus allowing inflammatory action to subside.

CASE 2. I was guided in this instance by the following considerations : The diagnosis, as respected the extent of

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\*Dr. OWENS.—*Sir*: When you left St. Louis, I took charge of Mr. U., as you requested. When I called to see him, I found that he was using no medicine or other means for his late stricture, and as he said he was passing his urine in a full stream, I did nothing for him, but told him to call and see me every week and report how he was getting along. He has continued to do so, and so far his urethra has continued to improve. I saw him to-day, and he tells me that he passes his urine in a full stream without pain or straining. I found that I could pass a No. 8 bougie without difficulty. He gives you the credit of restoring him to a life of comfort and happiness, which he had given up all hope of; and I will add my testimony to the fact, that to your untiring efforts and skill he may well say that he owes his life.

J. J. McDOWELL, M.D.,

ST. LOUIS, May 28, 1869.

419 Olive Street.

injury, was extremely difficult. I could not determine the extent of lesion, yet there manifestly existed a laceration of the urethra, and I feared as a consequence extravasation of urine, or the formation of an extensive fistula, and determined to obviate both or either by the performance of paracentesis of the bladder at a site posterior to the lesion.

CASE 3. The history of this case teaches us, I think, a very valuable lesson, namely: that in cases of stricture involving the operation of the perineal incision for its relief, should the embarrassment present itself (as in this case) of a failure to find the urethra, we had better wait a few days to allow the vis a tergo force of the urine to demonstrate to us the locality of the urethra at or near the point of incision—it being of course understood that paracentesis had been previously performed. In this instance there cannot, I conceive, be a doubt but that there was occlusion almost amounting to obliteration of the urethra; for the patient told me (referring to the urine being ejected through the incision in the perineum): “I felt a weight and pressure in the perineum, when suddenly something gave way and the urine was ejected to the distance of several feet.”

I believe that the surgeon will be generally rewarded in such cases for the exercise of a little patience, by seeing the urine pass out through the penis, as the granulations close up the wound. (I refer here entirely to cases of obliteration of the urethra, or the failure to find the urethral canal after the perineal section has been performed.) At any rate you possess this advantage by adopting such a course: In the first place you use your knife only tentatively, if I may so express myself, and avoid those extensive incisions which often result in infiltration of urine and death. Secondly, having relieved your patient from the distress upon his bladder and kidneys, by paracentesis through the rectum, you still have it in your power to draw off the urine, should the distress become urgent, through the canula left in the vesico-rectal wound, and you thus gain time to recruit the health of your patient by the



judicious employment of tonics and suitable diet. And finally, should it become necessary in the further course of treatment to make your incision more extensive for the relief of the stricture, you will have lost nothing by the delay.

It is unnecessary to enter into an account of the medical treatment adopted in my attendance upon these cases. Beyond an occasional injection of morphine, in solution, into the bladder through the canula in the case of L. U., and washing that organ out with tepid water to free it from mucus, there is nothing specially interesting to relate.

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*BROMIDE OF POTASSIUM FOR THE TROUBLES OF  
TEETHING.*

By A. A. HOEHLING, M.D., Surgeon U. S. Navy.

*Editor St. Louis Med. and Surg. Journal:*—The gratifying results which followed the use of the bromide of potassium in the only three cases of difficult dentition which have come under my care lately, must be my excuse for trespassing upon your valuable space. An additional reason for my communication, after such a limited experience, is that my return to naval duty renders it improbable that I shall myself have an early opportunity of fully testing the great efficacy which I believe this remedy to possess.

The first case was that of an infant aged 11 months, which had been brought up by hand. Its stomach had always been very irritable, and its nutrition was poor. Some three weeks before I saw the child, severe symptoms set in from teething; the gums had been lanced, and the child was nourished with great difficulty. It had been given paregoric, and quinine injections, but without benefit. When I saw it there was little hope in my mind, for there were marked head symptoms, the cough so often met with in these cases, and debility. The stomach rejected much of the food which was given. I was convinced that the opiate was contraindicated on account of the brain symp-

toms, and tried hyoscyamus for a day or two. This did not answer, and I concluded to make use of the bromide. Doses of one grain every six hours were given, and immediately the child obtained rest; it did not roll its head about so much, and slept well. After a somewhat prolonged convalescence, during which the gums were freely lanced by the family physician, the child recovered. The previous condition of its stomach had probably much to do with its tedious convalescence.—The second case was in a child two years of age; he had a cough, and was somewhat listless; found him taking syrup ipecac. The gum over his lower molars was highly inflamed and puffy. Gave potassii bromidi gr. j. in a teaspoonful of aqua cinnamomi every four hours. In two days the child was well enough to dispense with farther attendance.—The third case was also a child two years of age, in which the molars were giving trouble. The child had an occasional chill, loss of appetite, bright red and swollen cheeks, profuse salivation. Gave the bromide, gr. j. ter die, and *immediate* relief was procured. His parents were then directed to give a dose of the medicine only when they should perceive that the child was in pain. When I last saw him he was not laboring under any symptoms indicative of difficult dentition.

In cases like the above we must relieve the pain, and all will go well; from my small experience I consider lancing the gums as a temporary expedient, and one which retards the appearance of the tooth. I believe that much of the irritation proceeds from the alveolar process itself, and is but moderately relieved by the hæmorrhage from an incision into the gum; the mere pressure upon the *gum* I do not regard as of the first importance. When the gum *is* lanced, it should be by two oblique incisions, if over a molar, cross cuts at right angles being useless, as the points of the crown are not set free. Opium is undoubtedly injurious in these cases, by increasing the tendency to brain congestion which already exists. We have then the

bromide of potassium which tranquilizes the nervous system, relieves pain, and procures sleep; nature reinforced by such powerful aids soon accomplishes the rest, for we have to do with a natural process, which requires but little help from us, if that little be well directed. The cough attendant upon difficult teething is undoubtedly well known to experienced practitioners, but yet it will do no harm to ask young beginners always to examine the gums in children with a cough, during the period of dentition, for it is not uncommon to see a child dosed with expectorants when attention to the gums would at once procure relief.

U. S. S. New Hampshire, NORFOLK, Va.

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*STOMATITIS MATERNA.*

By M. M. Pallen, M.D., Professor of Obstetrics and Diseases of Women, St. Louis Medical College.

Stomatitis materna, or as it is usually called, nursing sore mouth, is an affection often met with in St. Louis. It occurs under various forms, but is always the same, differing only in degree;—it may be mild or it may be severe, and one may classify such degrees if he chooses.

At times it is a superficial inflammation of a part of the mucous membrane of the mouth, being confined to the lips or the end of the tongue, or it may be continuous over the entire cavity of the mouth and fauces. This simple variety disappears, again to recur.

In other cases a crop of vesicles exhibit themselves over a portion of the inflamed parts, assuming often an appearance of an aphthous character. Frequently the sides of the tongue are fissured, and there is a feeling of scalding experienced in the mouth, and deglutition causes pain.

But such local lesions are not all. The disease is too often complicated with indigestion, sour stomach and diarrhœa. The patient loses her appetite and strength, she becomes emaciated, and has all the pains and aches to which a confirmed dyspeptic is liable.

It is a matter of some importance to know why such a condition exists. Is it owing to some local affection, which being cured, will arrest the disease and prevent its recurrence in a subsequent pregnancy? This is a question to be determined, and I throw out the suggestion to be found in this article as the result of my experience.

Various causes are cited as productive of this singular affection: nursing; climate; a particular condition of the blood, not exactly defined; a tubercular diathesis; epidemic influence, etc. In the March number of the *St. Louis Medical and Surgical Journal*, for 1859, I published an article in which I stated that it was due to some abnormal condition of the uterus, and I have had no reason to change my opinion since. Every one who has observed and written on this subject admits that it is not due to lactation, as it is manifested during the period of utero-gestation as well as in the period of lactation. That climate may not have any thing to do with it, I will by no means assert, as I find no reference made to it in the various works on diseases of females, published in Europe or in America, with the exception of the treatise on the medical and surgical treatment of women, by Prof. BYFORD, of Chicago. That it has prevailed in New England, however, we have the evidence of Dr. PRAY that Dr. JACKSON met with it in Boston, Massachusetts, in 1800. In 1830, Dr. HALF presented a paper to the Medical Society of Massachusetts on this subject. The *American Journal of the Medical Sciences* contains a paper, read by Dr. BACHUS before the same Society, in 1841, on this same subject. We are assured by Dr. MCGUGIN, formerly of Keokuk, Iowa, that it is a disease of ancient date, and that VAN SWIETEN describes it as having prevailed in Holland.

That it is due to a hydræmic condition of the blood, or to a scrofulous diathesis, I cannot at all believe. I have at this time a lady under my medical charge, who suffered severely from stomatitis materna, and the history of her case will be sufficient, without citing many others which

would go to establish the truth of the proposition. There is no tubercular or scrofulous taint on either side of her descent; she was very robust and healthy up to a certain period. There was nothing unusual about the labor with the first child; with the second child she had a tedious time. After her confinement with her second child, she experienced such symptoms as would indicate uterine disease. In her third pregnancy she had sore mouth, which continued after confinement until the child was weaned. In her fourth pregnancy it reappeared, and continued after her accouchement. Six months after that period, she nursing the child all the time, I saw her for the first time.

She had sore mouth, the sides of the tongue being red and fissured; there were aphthæ within the lips and within the cheeks; sour stomach, and diarrhœa; pain in the back; sensation of bearing down in the vagina when she assumed the erect posture, particularly if she took much exercise, and leucorrhœal discharge. Examination proved that she had chronic cervical endo-metritis. To relieve the acidity of the stomach, the sub-nitrate of bismuth was given; to restore the bowels to a healthy condition, the fluid extract of *nux vomica*, combined with a little of Battley's solution in mucilage of gum acacia, was given three times in a day; to cure the condition of the womb, injections of warm water in large quantities, twice a day, were properly thrown into the vagina, and twice in a week the interior of the cervix was touched, by means of an applicator, with chromic acid, or carbolic acid. Under this treatment she rapidly improved. She has no longer any sore mouth, nor any diarrhœa; her appetite is good, and the womb is nearly healthy.

It may be said, that as this disease (the sore mouth) gets well when the child is weaned, that it is caused by the lactation; but it must be remembered that it also exists before the birth of the child; and this important fact must be borne in mind, that it exists when there is neither pregnancy nor lactation, and then it is usually ascribed to some derange-

ment of the stomach. So far as my own experience goes, there is always some lesion of the uterus.

Observations show how diseases of the womb will exacerbate other affections. Nothing is more common than to see how the parturient female suffers in the earlier months, sometimes in the later months, and sometimes during the whole period of gestation, with nausea, with or without vomiting. This may be slight or it may be serious, but when serious it is caused by disease of the womb. This is now admitted by some of the most observant gynæcologists. So, too, during gestation, in the early as well as in the later months, there are many aberrations of the nervous system of not much moment, but on other occasions we see some of more serious import. Careful inquiry and investigation will discover that many of these (I do not assert that all) are connected with uterine maladies.

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*CASE OF OVARIAN ABSCESS.*

By JOHN BAKER, M.D., of Jefferson City, Mo.

April 26, 1869.—I was called upon early this morning to visit Mrs. P. I found her lying on her back, with knees drawn up, countenance expressive of pain, face pale and emaciated; she was suffering from much pain of a bearing down character, chiefly referred to the rectum, also from retention of urine; there was pain in the right iliac region, which was increased upon pressure; pulse 88, feeble, neither full nor wiry, but very easily arrested by slight pressure; tongue furred, slightly inclined to brown, and moist. There was pain in the perineum and internal femoral region, which was increased upon the slightest pressure. She informed me that about ten days ago she had an abortion, which she thought was caused by a blow on her back; also, that about twelve months ago she miscarried, and that since that time her health had never been re-established.

After introducing a catheter and removing about eight ounces of urine, I made an examination per vaginam, and

found a tumor in the lower and posterior part of the vagina, which proved (by the finger being introduced into the rectum) to be a recto-vaginal prolapse. On examining higher up the rectum, another tumor was felt, at about three inches from the sphincter ani muscle, obstructing the rectal canal. The question now arose in my mind, can this tumor be the uterus in a state of retroversion, or an abscess in the fascia between the rectum and vagina, or what? And what can be the cause of this bearing down tormenting pain, which she called piles? Let us examine a little farther. A speculum was introduced, and the neck of the uterus was found low down in the vagina, presenting a dark red color. The os uteri was about three-quarters of an inch in length, and patulous to the extent of about half a line. Soon after making the above-described examination, I detected pus exuding from the vagina and rectum, and prescribed morph. sulph. gr. 1-8, secundis horis urgenti dolore; sp. vini gallici  $\frac{3}{4}$  ss. tertiis horis sd.; meat soup or any kind of nourishment she called for. A catheter to be introduced every six hours. The prognosis was not difficult—the treatment, a placebo. She gradually sank, and died the following morning.

On making a post mortem examination, I found a considerable quantity of fœtid purulent fluid in the abdomen, patches of inflammation in the peritoneum, and after sponging out the purulent fluid, and making an incision into the right ovary, a quantity of pus, of a thicker nature than that already effused, exuded. The external part of the uterus, both anteriorly and posteriorly, especially about the neck, was red and inflamed, not continuously, but in patches, and the internal part of the uterus presented a dark granular appearance. Time would not allow of a more minute examination, but sufficient was seen to show that an ovarian abscess, together with inflammation and suppuration of the pelvic fascia, had taken place, and opened simultaneously into the vagina and rectum.

JEFFERSON CITY, May, 1869.

*INFANTILE PNEUMONIA.*

By WM. S. EDGAR, M. D., St. Louis.

If we turn from the careful consideration of the nervous system, its delicacy of structure and diversity of endowment, to the couch of the sick infant, we are likely to approach the task of diagnosis with easy, careful step and gentle touch. The difficulty of the task to unravel and follow back to their primary source the present symptoms, and thus reach a satisfactory diagnosis, will be highly appreciated by all who have had experience in the treatment of infants. If it is often impossible to determine "what the matter is," in the case of an adult patient, who can answer questions and submit patiently to the various methods of physical examination, also give a rational account of his first symptoms of indisposition, how much greater must be the uncertainty and difficulty where the patient can give no answers, and his unsteadiness and alarm interferes more or less with the physical examination, and the nurse is too ignorant or inattentive to aid us with a reliable history of the case.

Pneumonia forms no exception either as to the difficulty or vital importance of an early diagnosis, for the initiatory symptoms are not such simply as may attend the onset of many other diseases, but the reflex or indirect symptoms are likewise similar, and therefore calculated to lead our inquiries away from the true seat and character of the disease. Hence, when we are requested to visit a sick infant, and we are confronted with convulsions, without apparent cause, we may include among the possible or probable causes shock to the nervous centers from congestion or excitation in one or both lungs—as the seat of an impending disease, as well as cause of the convulsions, which abating without serious cerebral lesion we may in a day or two find well defined pneumonia.

So insidious and obscure are sometimes the approaches of this disease in infancy, that the most important period for treatment may pass before we apprehend danger.



Again, when the disease begins in the trachea with symptoms of croup, and extends to the bronchi (and by contiguity to the thymus gland), convulsions are likely to supervene, the bronchi and thymus being liberally supplied with branches of the pneumogastric and sympathetic nerves. Not unfrequently the convulsions thus induced produce some lesion of the brain or its meninges, thus complicating the pneumonia and rendering the prognosis highly unfavorable from the beginning. That the thymus gland performs an important function for the infant circulation may be presumed, and in so far as pneumonia may be considered a constitutional affection, the failure of function in this and other glands of the class may predispose to this form of disease; however this may be, it is obvious that the greatest circumspection should be exercised in the primary examination of these little patients, regarding convulsions, when they exist, as a possible indication of approaching pneumonia, which a careful and thorough examination may confirm in time to avert, or guide to a successful termination.

It is a sad reflection that notwithstanding our boasted achievements in the medical sciences and practice, together with the principles of hygiene being interwoven with the higher civilization of the age, still, by the most reliable statistics, nearly one-half of our race perish under five years, and one-fourth of these from diseases of the respiratory organs,—a vastly greater proportion than perish among the domestic animals in *their* infancy. Considerations of political economy as well as humanity prompt to a thorough review of our entire system of hygiene, as well as therapeutics, for this class of patients. We are not without faith that as the result of the special study of this department, a more rational sanitary management and also a more scientific medical treatment will be reached, and the fact made patent by greatly reduced bills of mortality.

We have looked over a book written over thirty years ago, on the diseases of children, a most eminent authority at the time of its publication, now a *landmark*, to which we

may look and see if we have made progress; and to convince all that progress has been made in this department since the publication referred to, I will ask your indulgence to quote a few paragraphs from DEWEES on *Children*, published in 1836. On the sixth page he says:

We may safely add that the general simplicity of the diseases of children renders their management *easy*, as well as *more certain*, than those of adults. Their complaints are almost always acute, of the sthenic kind; hence the necessity and success of evacuants in almost all of them. Who has not witnessed the long continuance of diarrhœa without producing even weakness, much less death; and who has not seen a profuse salivation of even months' continuance, during the agonies of teething, without robbing the little sufferer's cheeks of their bloom.

Again, on the fifth page, these remarkable words:

For it must be recollected that there is so little difference in the general treatment of inflammations of the liver, stomach, bowels, brain, wind-pipe, etc., that little or no embarrassment can be created, should any uncertainty exist, as to the particular viscus that may be affected.

And it must also be recollected that any important viscus of the body in a state of disease has its corresponding marks and sympathies, by which a careful observer may *certainly detect* the organ to which it belongs.

We are quite prepared by the foregoing sentiments to appreciate the claim of the distinguished author to "have cured many cases of morbus coxarius by six weeks of bleeding, purging and starvation."

To return to our theme, we will consider the peculiarities of the *symptoms* of infantile pneumonia. In the infant the *chill*, so often well marked in the adult, will not be noticed, nor often indeed in the child of three or four years; often the first symptom noticed in the infant at the breast is that when nursing it suddenly lets go the nipple to breathe, alternately grasping and letting go, not being able to respire through its nostrils with wonted rapidity and freedom; it is fretful, particularly at evening, its repose is broken, heat of surface exalted, often to above 104° Fahr., respiration correspondingly accelerated, frequent short cough, lips florid. The physical signs are not so reliable for accuracy of diagnosis as in the adult. The greater resiliency of the chest makes it more difficult to bound or mark the limits of

the various sounds by auscultation or percussion. You cannot expect that quiet and repose under the sounding of its chest that we have in the adult. If dullness exist over any portion of a lung, its import is uncertain, as it may arise from congenital phthisis, from carnification, or from atelectasis unnoticed prior to the sickness. At the proper stage of the disease the usual subcrepitant râle may generally be noticed; but to define exactly the limits of the pneumonitis in these little patients is impracticable, at least we confess being inadequate to the task. We are not likely to see much sputa; occasionally a little may be vomited, streaked with blood, sometimes of the characteristic rusty color.

A few words concerning the *stages* of the disease in infants. Here the same uncertainty exists, for as the disease usually begins in a portion of one lung, and gradually extends to the entire viscus, the first part attacked may be in the second stage while the remainder is in the first stage, and if the other lung be invaded, the different stages may coexist; hence it would seem unwise and unprofitable to attempt great refinement in diagnosis with this class of patients.

If the effusion terminate in hepatisation, the *prognosis* will depend on the extent to which the function of respiration is cut short; if limited, time may only be needed for its removal. If the effusion is extensive in both lungs, before the process of suppuration, liquefaction and absorption can take place, the little sufferer succumbs from want of aeration of the blood. Hence the prognosis, in infants, will usually turn on the *extent* of the disease.

**TREATMENT.**—It is a number of years since we have resorted to the lancet, antimony, purgation or vesication, or even to mercury, in this disease. In this we have differed from many of our neighbors for whom we entertain the highest regard as men of ability. By degrees we have let go one and another of these measures and substituted others, until but one or two linger for occasional use. And

we don't feel at all confident that the coming thirty years may not be as ruthless as the past, and consign much that we now esteem with the scaffolding of the past. And so it must be as long as medical practice cannot be ranked with the positive sciences.

Our first prescription now is a careful searching look into the condition of our patient as to his previous nourishment, the state of his system, particularly the blood; if well nourished, we administer an arterial sedative—aconite or veratrum viride; the latter we prefer. To an infant under one year, half a drop of Norwood's tincture in a little syrup of tolu or sweetened water every two or three hours, until some effect is observed on the pulse and heat of the surface; if over one year old and under three years, gradually increased to one drop at like intervals; and if over three years and under ten, increased in like manner to two drops.

We are thus specific in this direction from apprehension that many have not had personal observation with this remedy sufficient to correct the errors in the U. S. Dispensatory and other books. NORWOOD himself never knew the chief value of his discovery, or he would not have recommended it as a good and safe *emetic*, for it is a bad and dangerous one; he advised too large doses, as all know now who have acquired knowledge and skill in its use. It is the best substitute for the lancet, it is infinitely better than the lancet in all cases of this disease, for young or old; it puts on the "brakes" and reduces the momentum without wasting steam, which you may presently need; it is eminently the remedy for the congestion, the hyperæmia, to take off the pressure and relieve the engorged capillaries, which it does admirably without the depression and danger attending the use of antimony. Young persons bear veratrum viride better than adults, *i. e.*, they will bear a larger dose in proportion than of most other remedies. I have seldom found it necessary to give more than three drops every two hours to an adult to bring his pulse down from

one hundred and twenty beats in a minute to eighty, or even sixty if desired. If the strongest advocates for the lancet in this particular disease will first administer a few doses of *veratrum viride*, they may be satisfied that their patient's pulse does not indicate the lancet, being reduced in frequency and force to near the normal standard.

If the bowels are constipated, we open them with a laxative; in connection with these means we apply a warm fomentation over the chest—a few folds of canton flannel, covered with oil silk, is light and pleasant, and retains the heat and moisture.

If our patient has been well nourished prior to the attack, we give diluents and pretty much withhold nourishment until the congestive period has passed, when we return to the accustomed diet if there is inclination for it, with expectorants: *ippecac*, squills, syrup *senega*, etc.

If the seizure be in the trachea and extend to the bronchi, and thence to the lungs, an emetic of *ippecacuanha* may be of service at first; tartar emetic is not so safe for young infants.

After the effusion has occurred and the pneumonitis is established, the supporting plan of treatment we believe most successful, with the occasional exhibition of expectorants as much for the friends as patient. And if our patient be anæmic at first, having been poorly nourished from any cause prior to the attack, we omit the *sedative* altogether, use fomentations over the chest and to the lower extremities, and resort to increased nutrition and stimulation from the first; if the stomach refuses it, we inject beef tea and milk, with a few drops of brandy, every six hours into the rectum, and give syrup of *senega* at first, following with squills, *tolu*, and wild cherry.

In some cases when the dullness lingered in a portion of the lung, we have been tempted to try mercury, and vesication,—cautiously, so as to obviate a troublesome sore,—but never felt sure of benefit from either.

If gentlemen who still rely upon depletion, calomel, purging, and antimony, for these little patients or indeed

any patients in this disease, will try the plan suggested above, we feel confident they will not hastily return to their former method of treatment. There is nothing new in the treatment suggested; we only add our testimony in approbation of the plan now being pursued by many thoughtful, scientific practitioners.

We are also aware that some eminent authorities (BENNETT may be mentioned) sneer at *veratrum viride* as uncertain, dangerous, and valueless; but Dr. BENNETT does not discriminate between the starved paupers who drift into European hospitals and well nourished patients; if his practice of stimulating diet and drinks from the first was proper, sedatives were not indicated, and it was *his* blunder to give them, not that of the remedy. It is hardly necessary to add here that *veratria*, the alcaloid of the white European hellebore, is quite another medicine, and does not fill the indication for *veratrum viride*.

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*THERAPEUTIC EFFECT OF BLISTERS BY REFLEX  
ACTION OF THE NERVOUS SYSTEM.*

By L. MONTGOMERY, M.D., Micanopy, Fla.

To reconcile theory with experience has been a struggle ever since the "healing art" has been reduced to a science. That which experience has often proved correct and proper is by theory and science condemned and abrogated. Such is the case when we attempt to ascertain whence comes the beneficial effect of counter-irritation, especially when urged to the extent of blistering.

That the powerful impression made upon the system by blisters is in many instances sufficient to subvert pathological conditions and thus facilitate the re-establishment of healthy action, is acknowledged by the best medical authority, and on the principle of revulsives they may be used in a great variety of diseases.

But to arrive at a more judicious method of obtaining

this sanative effect, and thereby foregoing many an hour of useless pain, exhaustion and suffering, is our present purpose. It is never too late to ascend a step in the scale of science, nor make a digit's progress in the direction of discovery.

Prof. Wood, of Philadelphia, states, "that by drawing both the nervous energy and the circulating fluid to the seat of their immediate action, they relieve irritations and inflammations of internal parts." And in his invaluable treatise of the practice of medicine he repeats in substance the same, and advises for internal inflammations that large blisters be applied immediately over the seat of the affection. But will this practice stand when called to answer at the bar of common sense and science?

If the inflammation be purely internal, e. g. uncomplicated pneumonia, and the blisters be placed upon the chest immediately over the part affected, the draft of nervous energy will bear equally upon all parts of the nervous system, and will only affect in a very remote degree the part diseased, because it is impossible for the lung to be affected by a blister upon the chest except by reflex action of the nervous system.

We have intervening between the parts affected in uncomplicated pneumonia and the seat of the blister, the integument, the muscular walls of the chest, the pleura costalis and the pleura pulmonalis. Hence we have two serous membranes in contact with each other, and between which there is no communication leading from the blistered surface to the part inflamed, either by nerves or vessels. Then it is clear that the therapeutic effect cannot be attained except the impression first be carried to the cerebro-spinal axis and reflected to the seat of disease.

Then, since it is by reflex action of the nervous system that the effect is produced, would it not be more proper to place the blister at once upon the part that would bring the cerebro-spinal axis most directly and most impressively under its influence, and especially that part, if possible,

whence the nerves that supply the parts diseased are given off? So far as the amount of circulating fluid that would be drawn to the surface is concerned, it would evidently be too small to have any impression upon an internal inflammation.

The above will apply to uncomplicated inflammation of any of the viscera, cranial, thoracic, abdominal. But if the inflammation is situated in the walls of the body, or if the walls of the body are involved with the internal inflammation, then apply the blister immediately over the part affected. 1st. Because the revulsive power will be greater than if placed upon the spinal column; 2d., because it will temporarily deplete the part inflamed. And at the same time, to relieve more promptly the internal inflammation, revulsive impressions upon the cerebro-spinal axis should not be disregarded.

In the treatment of pneumonia there is nothing better than blisters upon the spinal column and fomentations upon the chest, with the proper air, medicine and diet. Many cases in point could be cited, but it will suffice simply to direct the minds of the profession in this channel.

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*ON THE TREATMENT OF ANEURISMS BY THE HYPO-  
DERMIC INJECTION OF ERGOTINE.*

Remarks made in the Berlin Medical Society by Geh. Rath  
B. v. LANGENBECK.

Translated from the *Berliner klinische Wochenschrift*, March 22, 1869.  
by G. BAUMGARTEN, M.D.

**GENTLEMEN :**

This communication may appear premature, because the observation which occasions it has not yet been terminated; you are aware, however, that in this country aneurisms are comparatively rare, and that a single individual is not likely to have frequent opportunity for the use of the remedy that I have employed. But I must naturally desire very much



that farther trials be made, because possibly a remedy here presents itself for arresting the growth of, and perhaps for curing, aneurisms, while our present medical resources disappoint us in the treatment of large aneurisms which are not accessible to surgical manipulation.

It is well known that ergot is a grand remedy in obstetrical practice. It promotes and excites contractions of the uterus and thereby also acts as a hæmostatic in uterine hæmorrhages. We may conclude from this, that the ergot operates on the organic muscular fibres, causing them to contract, and these considerations have induced me to try the injection of ergotine in a case of aneurism.

The patient is a man 45 years old, of firm and pretty muscular build, the father of several children, and has always been well. Early in the summer of 1864 he began to have pains in the right arm, radiating from the shoulder or side of the neck towards the arm, thought to be rheumatic and treated with sulphur baths without success. The pains increased and began to deprive him of sleep; the arm grew weaker. In September the patient, accidentally standing opposite the looking glass, noticed a tumor on the right side of the neck, the pulsations of which he could perceive distinctly. He came here in the beginning of October and was examined by me. There was found in the right supraclavicular fossa a tumor of fully the size of a pigeon's egg, distinctly pulsating. The pulsations of the tumor could be traced inwards through the fossa triangularis into the jugulum, a proof that the entire subclavian artery, even where the tumor was not found, and also the art. innominata took part in the distention. The heart's action was normal, but feebler than it is wont to be in a vigorous man, the sounds quite normal, no murmurs. In the aneurism a distinct bellows murmur was perceived extending into the innominata. The pulse of the right radial artery was stronger, only beating a little later than the left, a phenomenon often observed. The aneurism pulsated very strongly, and the pains in the extremity harassed the patient very considerably. It is well known, that the peripheric ligation of arteries in case of aneurism after BRASDOR has been employed on the whole with very unfavorable results, and I considered such a procedure in this case not to be thought of. I therefore employed the moxa made of charta chromata as recommended by JACOBSON (Copenhagen), over the aneurismal sac. From the beginning of October to Dec., 1864, in intervals of from three to four weeks, four large moxas were used and a continued profuse suppuration was obtained. The symptoms improved, the pains abated almost entirely, only now and then the patient still noticed a slight drawing pain in the arm, and early in January he returned to his home. From January 1865 to the summer of 1868 he was quite well; i. e., he could follow his vocations as before; the aneurism

had diminished, but it continued to exist and pulsated distinctly, though it caused no trouble. He came to Berlin occasionally to present himself. Last summer the patient was at Misdroy, taking sea baths. It was very warm at that time, and patient ascribes it to the heat that his condition grew worse; the tumor increased, the pulsation became stronger, the pains returned, the arm grew weaker, and sleeplessness set in. This deterioration continued without change from last summer until Jan. 2, 1869, when the patient again came to this place. I found the following condition: The aneurism had increased materially in circumference. The patient asserts that the enlargement has taken place only recently. The aneurism protruded beyond the clavicle to the size of a closed fist. The pulsations were so strong that, grasping the aneurism, one had the sensation as if the whole was about to burst. Pulsation was perceptible below the clavicle also, proving that the subclavian must have been considerably dilated. Occasionally, when the patient had walked, the pulsations became visible also in strong rhythmical jerkings of the head. The sterno-mastoids and the region of the fossa triangularis were bulged outward, the jugulum obliterated, no pulse perceptible in the right carotid, and therefore also absent from the right superficial temporal artery. The patient complained that he could not sleep during the last month for violent pain in the right arm. He could not lie on his back, but had to sit up in bed, the trunk inclined to the right, and only in this position could he sleep, though with interruptions. The increasing feebleness of the right hand made him particularly anxious. He had not been able to write since summer, and soon had to give up signing his name, because he could not hold the pen between his thumb and forefinger. The hand was very much emaciated, as is the case in muscular atrophy, the space between the metacarpal bones, especially those of the thumb and index, sunk in, motion of the fingers very imperfect; the flexors of the fingers were paralyzed, as also the small muscles of the hand and thumb. Sensation in the parts supplied by the ulnar nerve diminished, so that on the little finger anæsthetic spots could be detected. The terminal phalanges were tumefied, and he stated that this tumefaction had made its appearance during the time the aneurism grew worse.

On January 6th I made the first hypodermic injection of 0.03 grm. of aqueous extract of ergot. This injection, and all the subsequent ones were made between 11 A. M. and 12, always under the skin covering the aneurism. When I saw the patient next morning, he said he was very glad, having slept quietly all night; he had the idea that the injection had been made for that purpose. Next day, and after the subsequent injections, it was found that the patient could sleep lying on his back, and that the pain in the right arm was much less. In accordance with this, it became evident—i. e., I thought I found—that the pulsation in the aneurism was feebler, and the latter had considerably decreased in size. I will not weary you with further details of the history of the case. I will only state that, from the 6th of January to the 17th of February, usually at intervals of three days, about two grammes of ergotine were injected in doses of from 0.03 to 0.18 grm. The amelioration continued

to progress steadily up to this day. The patient, who had not been able to hold the pen, gave me a week ago a sheet of paper on which he had written his name perfectly well; and this morning he told me that he had written a lengthy letter to his brother on the occasion of his birthday, and that the handwriting was pretty nearly as of old. The motion of the hand has returned; when he came here, he carried the right arm in a sling, whereas now he walks as usually and carries a cane in his hand.

The aneurism still beats very distinctly, but most decidedly feebler, and has grown materially smaller; the jugulum has become shallower and the fossa triangularis between the two sterno-mastoids has reappeared, but I regret being quite unable to give you definite measurements by which the diminution of the tumor could be determined with certainty.

Ergot has been used in other hæmorrhages than those of the uterus, and as it seems, with decided success; a number of years ago it has been used internally in hæmorrhages from the nose and lungs. More recently, hypodermic injections of extract of ergot have been made, first, as far as I know, by EULENBURG, in cases of pertussis, with reference to the alleged narcotic effect of ergotine. After injections of 1-18—1-9 grains he observed an abatement of the paroxysms of cough, and several times vomiting set in. Besides this, it was used hypodermically in hæmoptysis by DRASCHE, who asserts that its effect has been instantaneous. v. GRÄFE, whom I informed of the results of my injections, told me that in the case of a nurse of his clinic he had injected ergotine subcutaneously on account of a severe pneumorrhagia resisting all remedies, and the hæmorrhage had not returned since that time. I have also instituted experiments in cases of hæmorrhage, but I cannot yet give any information on the subject, because the observations are not yet numerous enough and in part not pure. When the hæmorrhage is very severe, one is forced to resort to other means also, e. g. compression, for arresting it. I will mention only that I have never employed the injections in vain.

Thus far, I have been unable to perceive any general symptoms from the injections of extract of ergot. Once I injected, in the patient with aneurism, on one day 0.18, on the next 0.30 grm. The patient stated that he had confusion of vision, and complained much of the pain he suf-

ferred in the right shoulder; he requested me not to inject otherwise than formerly; I did not observe vertigo or vomiting, as EULENBURG did. It is a matter of regret that we do not exactly know what remedy we are experimenting with. The poisonous action of ergot seems to be due to an ethereal oil which is not contained in the aqueous extract; and it seems that the latter, even in larger doses, produces no effect on any organ whatever. I have till now been using the aqueous extract of BONJEAN. (℞ Extr. sec. corn. aquos. 2.5 grm., Spir. vin. rectific., Glycerin. ana 7.5 grm.) My syringe contains exactly 0.18 grm. of this solution, and in the last instances I always used a whole syringeful. For aneurism I always injected under the skin on the surface of the aneurismatic sac, for hæmorrhages sometimes on the neck, sometimes on the extremities.

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To the above first experiment I am now enabled to add the observation of a second case in which a single hypodermic injection of 0.15 grm. extr. secalis aquos. sufficed to cause an aneurism of the radial artery, the size of a hazel nut, to disappear without leaving a trace.

W. STEFFENS, of Berlin, carpenter, æt. 42, of vigorous build and always healthy, was admitted, Feb. 16, into the Royal Clinic for a punctured wound near the left elbow joint received Feb. 14th. A stab with a knife had completely severed the muscles arising from the external condyle of the humerus in the direction from without inward as far as the bend of the elbow. The margins of the wound were much swelled and reddened, the whole arm moderately swelled.

In order to establish whether the capsular ligament also had been injured, an examination was made Feb. 17 under chloroform, and it was found that the articular capsule had escaped injury. At the same time an aneurism of the right radial artery was discovered.

About 3 centimetres above the wrist there was a tumor of the size of a hazel nut, with distinctly visible and palpable pulsations. It was covered by normal skin and had the radial artery, which at this place made a slight bend, lying upon it. Our first supposition that we had to deal, not with an aneurism, but some other tumor situated below the radial artery, was controverted with certainty by repeated accurate examination, instituted also by several physicians present at the clinic, and it became evident that an aneurisma saccatum existed, proceeding from the lower wall of the radial artery, the upper wall being unaltered.

When the lateral portions of the tumor, which extended considerably beyond the radial artery, were grasped cautiously with the fingers without touching the latter, distinct and pretty strong pulsations were felt in the tumor itself. Compression by the finger caused the tumor at once to disappear entirely, and several seconds were required before it again developed to the former size. By compression of the brachial artery in the middle of the arm the tumor disappeared just as rapidly and completely, slowly returning again, when the compression ceased, by regular pulsations. Forcible flexion of the fingers very much increased the size and pulsations of the aneurism. No murmurs could be detected, perhaps because the locality did not admit of an accurate application of the stethoscope.

Patient states that the aneurism appeared without known cause, about twenty years ago, that at first very small, but always pulsating, it slowly attained to its present size, and never caused painful sensations or any inconvenience in working. For fully two years it had ceased growing, but had remained stationary.

On Feb. 17th I injected 0.15 grm. extract. *secalis aquos.* in the above mentioned solution between the skin and the aneurism. On Feb. 18th, at the morning visit, the aneurism could no longer be found. At 2 p. m., perhaps in consequence of using the hand in eating, the tumor was again perceptible, but much smaller and pulsating more feebly. On Feb. 19th a slight erythema of the skin had developed around the little puncture, and the connective tissue beneath was slightly swelled and infiltrated. Both symptoms disappeared gradually in the course of about 8 days and with them all trace of the aneurism.

An exact examination made to-day (March 18th, 29 days after the injection) establishes the entirely normal condition of the radial artery in the region of the former aneurismatic tumor, and forcible flexion of the fingers, which formerly made the tumor more prominent, causes no change about the artery. As the punctured wound of the left arm has not yet healed, the right arm, on which the aneurism was situated, could not be made immovable, but was used by the patient in all his doings during the whole time.

The supposition which originally induced me to use the ergotine in aneurism,—that contractions of the smooth muscular fibres can be excited by this remedy,—may appear justified from this observation, because in arteries of the calibre of the radial the smooth muscular fibres are far better developed than in the subclavian.

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## Reviews and Bibliographical Notices.

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*HANDBUCH DER LEHRE VON DEN GEWEBEN DES MENSCHEN UND DER THIERE.* Unter Mitwirkung von J. ARNOLD, BABUCHIN, O. BECKER, BIESIADECKI, E. BRÜCKE, COHNHEIM, EBERTH, etc., etc., herausgeg. von S. STRICKER.

[*Handbook of the Histology of Man and Animals.* Edited by S. STRICKER.] 1st Part, prepared by S. STRICKER, A. ROLLETT, MAX SCHULTZE, J. ARNOLD, W. KÜHNE, and E. BRÜCKE. With 49 wood cuts. Leipzig: W. Engelmann. 1868. 8vo., pp. xxviii, 176.

Histology, i. e. the anatomy *and physiology* of the tissues, for the two are as yet inseparable, is a modern science, and one which is so rapid in its progress, so energetically pursued by industrious students, so importunate in its demand for recognition, that no treatise can fully represent its condition at the given time, and the ablest exposition of its truths and tenets soon becomes superannuated from the discoveries of new facts, and the consequent elucidation, modification or subversion of the doctrines of a few years ago. Such at least has been its past history. The systematic works on histology which we possess at present do not by any means accurately portray the state of the science; its facts are scattered in the files of our periodical literature, and nothing but patient and diligent study of innumerable individual labors can avail in the effort to keep *au niveau* of to-day's knowledge of the subject. The attempt to collect the accumulating experience, to represent the full development at the time of writing of such a science as this, is, therefore, a difficult task, but one which will meet with general applause and be most gratefully received.

This attempt is now being made by a number of German microscopists, among whom are some of the best of our day, e.g. BRÜCKE, COHNHEIM, KÜHNE, PFLÜGER, v. RECKLINGHAUSEN, ROLLETT, M. SCHULTZE, et al., each of whom devotes himself to the elaboration of his own favorite branch, and whose joint labors are united into one systematic volume under the editorial care of STRICKER. The advantages of this division of labor are

self-evident ; whether the authors will be successful in producing a homogeneous whole, is a question which the first part now before us allows us to hope will be answered in the affirmative. The book will be issued in four parts, of about 200 pp. each, and is to be completed by the end of this year. An analysis of this important work, amounting as it does to a review of the histological doctrines of the present day, may be of some interest.

Dr. STRICKER introduces the work by a chapter of 28 pages on the general methods of study, the preparation of objects for examination, the employment of moisture, gases, heat, electricity, etc., injection, staining, and the use of reagents.

*The Cell.*—The same author prepared the general chapter on the "cell." Previous to SCHWANN, the microscope distinguished fibres, cells, globules and granules,—formations which were considered not independent in their growth, but subject to the influence of the vessels ; hence they were separated from vegetable tissues, which have an independent life. SCHWANN (1839) enunciated the important principle that "the animal cells throughout are analogous to those of plants ; the animal cells are as independent in their growth as they ; the vessels of the animal body only occasion differences in the distribution of the nutritive fluid ;"—and JOH. MÜLLER accepted the position. VIRCHOW compared the organism to a free state of individuals with equal rights, though not equal faculties. The views on the biological importance of the animal cell had thus been completely changed. The investigation of the lower forms of animal life advanced these ideas. DUJARDIN had in 1835 discovered in lower animals a contractile substance which he called *sarcode* ; it was at first considered peculiar to lower animals, irritable without the intervention of nerves ; it was found that a lump of sarcode may be a living, independent individual. Farther discoveries (of the contractility of embryonic cells and the similar changes of form in colorless blood cells, ciliary motion, the comparative studies of muscular substance and sarcode) made it probable that the contents of all cells are contractile, a supposition expressed by KÖLLIKER. It remained for MAX SCHULTZE to demonstrate (1861) that sarcode is analogous to the substance of the animal cell, and thus to enlarge the doctrine of SCHWANN. The cell now was recognized as the typical morphological element of the entire organized creation.

As to the form of the cell, from the similarity of the cells of the chorda dorsalis to vegetable cells, SCHWANN supposed all animal cells to be constructed on the same plan: a wall limiting a cavity, which contained fluid contents and a nucleus. Where the membrane or wall could not be seen, it was assumed. This diagram was generally accepted together with his principle of the analogy of the animal and vegetable cell. Occasional opposition to it remained without effect, so long as that principle also was attacked. MAX SCHULTZE, however, succeeded in subverting this vesicular diagram of the cell; he, like LEYDIG and others before him, defines the cell as a lump of substance (protoplasma) enclosing a nucleus; the weight of his definition, however, does not consist in denying the existence of the cell wall in many or most cells, but in the recognition of the identity of the so-called cell contents with animal protoplasma or sarcode. The embryonic cells, he says, resulting from the division of the cells of the ovum, may be regarded as the true types of cells; and in these nothing can be found but a lump of protoplasma and a nucleus. Both nucleus and protoplasma are the products of division of the same constituents of another cell. The protoplasma is not limited externally, but by the circumstance that it does not mix with the surrounding medium, and by the peculiarity that with the nucleus it forms a whole. On the surface of the protoplasma a (chemically different) membrane may form from it, but this can be looked upon as a sign of beginning regressive change. A cell with a membrane cannot divide as a whole; only the protoplasma enclosed in the membrane can divide. BRÜCKE goes still farther in his definition of the cell and says it is not proved that the nucleus is indispensable, basing his opinion chiefly on the fact, that cells are known to occur in cryptogams and elsewhere, in which no nuclei can be perceived. STRICKER seems to accept this view; he agrees to apply the historic name of cell to the morphological elements of higher animals or to independent living bodies, even if there can be discovered in them nothing but a lump of animal protoplasma. But in order to call an isolated mass of living material a "cell," we must be able to perceive in it that sum of phenomena which characterize an independent organism; these are, active or "spontaneous" motion, nutrition and growth, and propagation.

*Motion* in cells is a phenomenon directly observable. The



mobility of the protoplasm is inferred from certain movements of the granules enclosed in it, or from certain changes in its form. The protoplasm or contractile substance, even with the best optical means, appears homogeneous, without structure; but it frequently contains imbedded in it, aside from particles of pigment or small globules of fat, a number of small, colorless, usually bright, highly refracting granules. In living cells these granules are often observed in passive motion, either progressive or oscillating. The progressive movements are certainly dependent on vital processes of the cells; it is still matter of controversy, if the oscillating movements be connected with life.

The changes of form are most decided in the lower forms of animals, especially the *amœba* and like animalcules, whence the designation of *amœboid* cells for cells moving independently. The cells of animals of a higher organization rarely move as rapidly as the *amœba*. Their movements are confined either to gradual changes of form, or to the projection of processes which are either followed by the rest of the cell body, or else are drawn in again. From repeated movements of this kind we can safely conclude that the object we are observing is living; on the other hand we are not able, from the absence of motion alone, to conclude that it is dead. Protoplasmic corpuscles are not only capable of changing form, but also place: they can "wander." This is accomplished by a part of their mass moving forward, whereupon the rest pushes on after it. The repetition of this manœuvre results in locomotion, which can take place, however, only upon firm substrata, not in fluids. The migratory faculty of cells in composite animal organisms has been discovered by v. RECKLINGHAUSEN,—an observation of the greatest value to our science. With the aid of the method of "feeding" cells with particles of insoluble pigment, he was enabled to demonstrate the important fact that pus corpuscles are not always generated in the spot where they happen to be found. This result has since borne fruit. STRICKER (1863) showed that in the building up of the embryonic organism, the change of place of cell masses for the construction of organs depends on migrations of the primordial cells within the ovum. COHNHEIM (1867), by showing that white blood corpuscles can leave the vessels—emigrate, gave expression to a principle of the utmost consequence to physiology.

The movements\* of the contractile substances are influenced by certain external conditions. The influences of this kind which are known are: changes of temperature, mechanical agencies, electricity, nerve influence, chemical agents. We have not space to enter into the interesting details of the subject.

The *nutrition* of cells, the mode in which the exchange of matter is carried on, is still in obscurity. There has been made but a single direct experiment on living cells, which we will mention, as it is our purpose to show the recent advantages in histological science and the amount of ingenuity and laborious research devoted to it. KÜHNE showed that ciliary motion is connected with a consumption of oxygen, and that the cells can derive the necessary oxygen even from loose chemical combinations. In an atmosphere of hydrogen and a solution of oxygenized hæmoglobin, ciliary motion will continue until the loosely united oxygen of the hæmoglobin is used up, which is determined by spectral analysis.

*Construction of Cells.* Optically, the protoplasm appears perfectly homogeneous, nor have we any reason to infer a definite arrangement of physiologically different parts, except in those cells or cell derivatives devoted to special functions. Thus the optical differences in the striated muscular fibre, the visible arrangement in the interior of ganglionic cells, are regarded as inequalities; but in these cases we speak of protoplasm modified for purposes of function.

The existence of an external involution or cell membrane can be proved only by the observation of a double contour; but even when this is found in objects after the action of reagents, it is no proof that the membrane was present during life.

Of the nature and functions of the *nucleus*, or even its physical qualities, little is known. Still less of the *nucleolus*.

*Cell Genesis.* The first opposition to the doctrine of SCHWANN—the formation of cells in a free blastema—was caused by the discovery of the segmentation of the vitellus, but it was REMAK who first (1852) successfully asserted that in the

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\* The author explains that in asserting that the protoplasm is capable of active or vital movements he does not countenance the assumption of an immaterial force. There is but one kind of forces upon which the motion of any body depends, namely those exerted upon it by other bodies. The motion of certain bodies is called "vital" only because the forces exerted upon them are subject to certain (variable) influences, which result from those arrangements and processes which we designate as "organism" and "life."

development of the embryo the *only* mode of cell multiplication that could be discovered was that by division. The final proposition of VIRCHOW (1855): "*omnis cellula e cellula*," may be considered the true basis of our present cell theory.

Cell genesis takes place by division, by budding or by endogenous development. In the latter case, cells arise and grow like embryos in the mother's womb; in the former modes, the mother cell divides into pieces which then represent the second generation. In the division of nucleated cells, the nucleus divides first; but not every division of the nucleus is followed by that of the cell also. No proof has yet been brought forward to show that nuclei can be formed except within cells. Before cells divide they have increased in size; the nature of cell multiplication consists in the power of assimilation.

The principle that cells multiply by division is incontrovertible. The segmentation of the ovum is an example quite unambiguous. But it is not so surely known if certain cells in the grown organism are still able to multiply in this manner. Since we have become acquainted with the migration of colorless blood-cells, doubts may arise whether other cells than these are capable of multiplying. With the exception of cartilage, in which cell division is as unequivocally visible as in the ovum, the tissues of the adult healthy organism present no absolutely unmistakable signs of division. In cartilage, we see the progeny of one mother imbedded in a cavity of a firm medium; in all other tissues, we can never be absolutely certain that two or four closely approximated cells did originate from a previously existing mother of physiological equivalence. The cells may have immigrated from somewhere else. In that case, it were reasonable to suppose that the colorless blood cells are destined for the regeneration of *all* tissues. Capillary vessels, it is true, can regenerate themselves, for we know that they send out filaments which in turn become capillaries. Not so with the connective tissue. As there is no doubt that (at least some of) the wandering cells of this tissue came from the blood, the question if the connective tissue substance be not always regenerated from this source, is still open. W. YOUNG has expressed himself as certain of this in the case of an œdematous scrotum. The most interesting part of this question concerns the glandular and epithelial cells. Numerous authors have asserted the development of the latter

from cells of the connective tissue (BURKHARDT, VIRCHOW, FÖRSTER); later, PAGENstecher asserted their development from "exudation cells," BIESIADECKI from white blood cells.

We make no apology for dwelling so long on this fundamental chapter, and only remark that we have skipped over all those parts of it which have no immediate connection with the *progress* of the science.

*The Connective Substances.* By Prof. A. ROLLETT, of Graz.—In so recent a discipline as histology, the discussion of its past achievements and present problems necessarily involves historical considerations. Usage applies the name of the connective substances to a series of tissues serving as the basis, support, or envelope of the higher tissues, and embracing the connective tissue proper, cartilage, osseous tissue, and the textures of the cornea and dentine, which are characterized by the fact that they contain a rather large amount of "intercellular substance," passive in character as compared with the cellular formations imbedded in it. The tissues of this group frequently pass one into the other by substitution or by genetic sequence; they appear moreover to be morphological equivalents, certain parts of nearly related animals often being constructed of different members of the group. REICHERT (1845) first asserted their relationship. He assumed them to contain a matrix which results from the coalescence of cells or parts of cells with a formless intercellular substance; he believed the connective tissue proper to be without structure. VIRCHOW (1850) and DONDErs called attention to the existence of cells even in mature connective tissue, and the former declared these connective tissue "corpuscles" to be analogues of the cells of cartilage and bone. According to VIRCHOW, the intercellular substance in the different members of the series differs only chemically and contains variously shaped, but still identical, cells. This theory met with strong and persistent opposition from HENLE, chiefly because it carried with it some errors due to the particular methods of VIRCHOW and his followers, especially the assumption of a system of canaliculi. The final result of the contest, however, was the demonstration that mature connective tissue still contains cells.

In the mean time the doctrine of SCHWANN had been thoroughly reformed, as indicated above, and in its new form ex-

erted its influence on the views then entertained. MAX SCHULTZE attempted to show that the mass of the cartilage was not an intercellular substance in the old sense of a solidified effusion between the cells, but that it originated ready formed from the protoplasma of the cells. This called for renewed investigation of the genesis of bone also, and of the fibrillary substance of connective tissue. In regard to the latter, MAX SCHULTZE indeed arrived at the conclusion that it arose from "the protoplasma of embryonic cells without cell-walls and approximated to coalescence;" only a thin layer of protoplasma remained around the nucleus as a membranceless connective tissue corpuscle. This is in substance the same doctrine which was developed independently of the German investigations by BEALE in England. "According to BEALE's peculiar terminology," says the author, "the connective tissue is originally composed of elementary parts (cells) consisting of 'germinal matter' (protoplasma); later, a part of the germinal matter is transmuted into 'formed material' (fibrillary substance of the connective tissue), which therefore formerly existed in the state of germinal matter and was formed at its expense." BEALE asserted the same in the case of osseous and cartilaginous tissue. WALDEYER confirmed these views in his investigations on the process of ossification. It is evident that by the discovery of this mode of development we have gained insight into another kind of genetic agreement between the bone, cartilage and connective tissues than that indicated in VIRCHOW's theory.

The author then alludes to the discoveries of v. RECKLINGHAUSEN, STRICKER, and COHNHEIM on the wandering cells, their amœboid movements and locomotion, etc.; he speaks of the influence they must needs exert upon the general questions of this subject, and passes on to the description of the three typical tissues mentioned.

The microscopic morphological constituents of the connective tissue are *cells*, and *networks* and *trabeculae* formed by them, peculiar fine non-anastomosing *connective tissue fibres* usually united in bundles, and lastly the *elastic fibres*, characterized by their resistance against reagents, frequently anastomosing, uniting into networks and laminae. The discussion of the "amœboid" cells is left to the chapter on the blood. The permanent cells of the connective tissue are described as formed of a granular mass;

some set off against the transparent ground substance at their borders like a finely granular cloud, others formed of a substance interspersed with larger strongly refracting granules. The latter are usually of an elongated shape; their nucleus is elliptical, light, bound by a double contour, or appears but indistinctly limited and covered uniformly by the granular mass. The finely granulated cells are provided either with a distinct, oval nucleus, or else their mass seems at one point to be collected in the form of a nucleus; they send out a variable number of processes of different length and thickness, by means of which they often anastomose. In these finely granular cells slow changes of form can sometimes be observed after continued inspection; they are much more sluggish than those of the wandering cells, and lead to no appreciable locomotion. Electric shocks cause the cells with finely granular protoplasma to become more roundish and retract their processes into round nodules; but a subsequent return to their former state has never been observed. In the wandering cells, on the contrary, such shocks cause a change of movement, or sudden retraction of all processes, whereupon they soon resume their former movements.

In young animals and embryos, the cell substance is broader, often sends out branching processes, and we often meet with anastomosing stellate cells.

It becomes evident, from a survey of the various forms of cellular elements of the connective tissue, that we are dealing with a series of differently developed cells, the genetic connection and physiological attributes of which are questions for future investigation.

*The forms of connective tissue.* Aside from that which occurs in certain new-formations of parenchymatous appearance (the small cell sarcoma of VIRCHOW) and comparable to embryonic tissue, the connective tissue occurs essentially in two divisions, one of which embraces those forms which consist of networks and trabeculae of cells, the other the fibrillary connective tissue, characterized by the presence of peculiar, never branching, fibres of collagenic substance. The former includes the gelatinous substance of the umbilical cord in the earlier embryonic periods, a very fine supporting and enveloping structure found in the retina and in the interior of the nervous centres, supporting and enveloping reticula in the lymphatic glands and

lymphoid organs, etc. The fibrillary connective tissue (fibrous t.), the most widely distributed form in vertebrate animals, is that which at first bore that name exclusively; it is composed of fibres and cells,—the fibrous portion largely predominating, usually arranged in more or less parallel bundles, as in tendons, fasciæ, and the cutis. In serous membranes, the arrangement is peculiar, especially in the omentum, where the tissue occurs in a reticulated form, the bundles which run in a thin membrane often dividing and reuniting so as to leave open meshes between them, the margins of which are sometimes actually bordered by continuous recurrent fibres. Another arrangement of the fibres is sometimes met with, in which the bundles are not parallel but run in all possible directions.

Concerning the interstices of the connective tissue, the author says: "He who investigates the arrangement of the connective tissue accurately cannot doubt that there are interfibrillary spaces in it. It is the simplest result of observation, that the collagenic substance of the connective tissue is not in all parts of a specimen in uniformly close contact, that it does not in all parts cohere with equal firmness." Respecting the wandering cells of the fibrous tissue, it would appear that they cannot traverse it in any direction they choose, but can only follow definite passages depending on the unequal distribution of a cementing substance. The latter, which is soluble in lime water, corresponds in chemical properties with mucin.

The question concerning the *genesis* of the fibrillary connective tissue is one of the most difficult in histology. The old view of SCHWANN that cells elongated by growth split up into bundles of fibres, was subverted by that of HENLE: an originally homogeneous substance splits up into bundles and fibres, the cells enclosed in the former taking no part in the process (VIRCHOW, DONDEERS, KÖLLIKER). MAX SCHULTZE and BEALE and others look upon the gradually changing intercellular substance as the protoplasma of membraneless and closely approximated embryonic cells, a little of the protoplasma remaining around the nuclei to constitute the connective tissue corpuscles. The author describes the process thus: "In its development, a part or all of the cells contained in the embryonic origin of a connective tissue organ grow and elongate to form spindle cells of considerable length and at the same time move away from each

other, by reason of the appearance either of at first a few. afterwards an ever increasing number of fibres between them. as in tendons, or of a greater mass of substance at first transparent and uninterruptedly striped, in which the fibres become visible at a later period, as in the omentum." According to him. the fibres originate at the expense of the connected mass "by a sort of coinage." So far, he thinks, the process can be shown with certainty; from a subsequent remark we gather, that the author also agrees in theory with the view above mentioned of M. SCHULTZE and BEALE.

*Cartilage.* We cannot enter into the details of this section. Respecting the development of cartilage, the author holds similar views to those expressed above in regard to connective tissue. and to those held by SCHULTZE and BEALE. The intercellular substance is not looked upon as a solidified homogeneous effusion between the cells, but as the result of successive growths of cell capsules. In the beginning, the cartilage consists of nothing but primordial cells without cell-walls; the chondrogenic intercellular substance is of secondary origin. Each cell first produces a cell-wall or capsule, then another capsule or layer within the first, and so on, the outer capsules enlarging and gradually coalescing with each other so thoroughly that it is not always possible in mature cartilage to separate the concentric layers of its matrix even by means of reagents. The question is still open, whether these successive generations of capsules are new-formations from the surface of the cells, or the metamorphosed superficial layers of the cell-protoplasma itself. The latter opinion is advocated by SCHULTZE, BRÜCKE and HEIDENHAIN (and, we must add, by BEALE).

The fibres of reticular and fibro-cartilage are regarded as elastic fibres.

*Osseous Tissuc.* The greater part of this section is devoted to a clear and masterly description of the development of bone; it is not susceptible of a brief analysis, so that we must be content merely to indicate the position of the author. Whether the osseous tissue be developed from preformed cartilage, or from a membrane, or from periosteum, the immediate process of osteogenesis will be the same. The distinction of three varieties of development—intracartilaginous, intermembranous, and periosteal—may be made as regards the locality of the process; but in



reality "we shall see that the osseous tissue in all these cases arises from essentially the same new-formation (osteogenic substance), and also that this connective-tissue-like germ-mass which precedes the osseous tissue proper, probably in all cases springs from the same germs." In the case of the primordial bones, the formation of osseous tissue is accompanied by the destruction of cartilage. At the line of ossification, between the preparatory layer of cartilage and the marrow, the region of calcified cartilage passes abruptly into a region of densely crowded, granulated cells, which are the derivatives, not of the enlarged cartilage cells, but of the medullary cells of the (s. c. medullary) spaces next adjoining. These darkly granular cells are called *osteoblasts*, and are the immediate antecedents of the true bone tissue. The same layer of cells or osteoblasts precedes the formation of the tegumentary bones of the skull (intermembranous osteogenesis).—

The chapters which follow are: a general description of the Structural Elements of the Nervous System, by MAX SCHULTZE, the Tissue of the Organic Muscles, by J. ARNOLD; Nerve and Muscular Fibre, by W. KÜHNE, Muscular Fibres by Polarized Light, by E. BRÜCKE. We are compelled to close our analysis of this important work for the present, but purpose to give a review of the chapters named upon the receipt of the second part of the book.

G. B.

*TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY*; Fourth and Fifth Annual Meetings, held at Niagara, N. Y., June, 1867, and Newport, R. I., July, 1868. New York, 1869. 8vo., 143 pp., and five pages of plates.

This is the third volume of Transactions published by the Society, the first and second having appeared in 1865 and 1866.

The American Ophthalmological Society was organized in 1864 upon the same general plan as the *Ophthalmologische Gesellschaft*, which meets annually at Heidelberg, and, like that body, aims at the advancement of ophthalmology and the elevation of the ophthalmic art through the agency of a yearly *réunion* of the widely scattered laborers in this especial field of medicine. The Society has taken, from the start, an advanced position among the scientific bodies of this country, and has

already made for American ophthalmology a good name and has given to it an acknowledged standing throughout the world. In its membership the Society has been singularly fortunate, having enlisted nearly all the best working talent in the country; especially has it insisted upon an honorable professional standing as a condition of election. Thus, although meeting but once a year, and numbering but about fifty members, the Society has already done much good by organizing a body of special practitioners ranking with the best professional talent of the country. Its members are in fact and by profession physicians, and they seek no other distinction than may be accorded them by their professional colleagues as faithful students and skilful practitioners of that branch of medicine in which they are chiefly interested. In order that the position of the members upon this subject might be distinctly stated, and a uniform rule of conduct established, it was unanimously resolved at the last meeting, that

No member of this Society shall attach to his name, in any public announcement, the title of oculist, or any similar title, or shall announce in print that he gives special or exclusive attention to special practice.

By the adoption of this article in its constitution the Society is in accord with and has in fact anticipated the action of the American Medical Association at its recent meeting in New Orleans, declaring the advertising of specialities a breach of its code of ethics.

The contents of the present number of the *Transactions* consist of reports on the progress of ophthalmology for 1865 and 1866 by Dr. B. JOY JEFFRIES, and for 1867 by Dr. G. HAY, together with twenty-three original papers and narrations of cases bearing upon the theory and practice of ophthalmology. Of these papers, three are upon points in the theory of vision, seven upon the refractive and accommodative defects of the eye, four upon cataract, two upon the treatment of lacrymal obstructions, two upon sympathetic ophthalmitis, and one each on the action of mydriatics in glaucoma, intraocular tumor, retinitis in glycosuria, herpes zoster ophthalmicus, and anæsthesia of the cornea. Several of these papers and reports are unfortunately very brief, which is the more to be regretted in view of the importance of the subjects and the known ability of the writers. We notice also that a few of the more important papers have been already published by their authors in the medical journals.

Under the head of the *Refractive Defects of the Eye* are two papers on the Detection and Measurement of Astigmatism by Dr. J. GREEN, of St. Louis, and Notes of Cases of Astigmatism, with remarks, by Drs. H. D. NOYES and O. D. POMEROY, of New York.

Dr. GREEN's paper describes his new system of tests for astigmatism, as modified and enlarged in accordance with increased experience in their use. It is illustrated by four plates, showing twelve test-diagrams not before published. The most important of these are the transparent tests, and especially the color-test in which the existence of astigmatism is shown by a difference in the apparent color of lines of different degrees of inclination. By these tests the diagnosis of astigmatism is greatly simplified, and the selection of appropriate correcting glasses is made comparatively easy. The fundamental principle upon which these tests are constructed may be briefly stated as the simultaneous inspection of lines, sets of lines, or rows of dots of different degrees of inclination, noting the inclination of the ocular meridian of most distinct vision: an essential condition, however, of this determination is the removal of the disturbing influence of conscious or unconscious variations of accommodative adjustment, which is effected by a preliminary correction of the eye by means of the strongest convex, or weakest concave glass compatible with distinct vision of any one line or set of lines.

An analysis is given of forty-eight cases of astigmatism, occurring in one or both eyes, from which several important conclusions are drawn:

1st. Uncomplicated astigmatism is a comparatively rare affection, occurring in but three cases out of forty-eight (3-48) of astigmatism, or nine out of eighty-four (9-84) astigmatic eyes.

2d. Astigmatism occurs as frequently and in as high degrees in connection with myopia as with hypermetropia.

3d. Mixed astigmatism occurred in but three out of eighty-four (3-84) astigmatic eyes.

4th. Astigmatism occurs in the majority of cases in both eyes (36-46).

5th. When astigmatism exists in both eyes it is very rare to find it of equal grade in the two eyes;—the difference of grade in the two eyes equaled or exceeded one-sixtieth (1-60) in eleven cases out of thirty-six (11-36).

6th. As regards the direction of the ocular meridian of greatest refraction : out of eighty-four (84) eyes it was,

vertical	in	15	=	18 per cent.
horizontal	in	7	=	8 “

The inclination to the vertical was

less than 45°	in	52	=	62 per cent.
greater 45°	in	29	=	34.5 “

This is in general accordance with DONDERS' statement that the meridian of greatest refraction is more frequently exactly or approximately vertical than horizontal.

The thirty-six (36) cases of astigmatism occurring in both eyes fall into two classes, according as the direction of the meridians of greatest refraction in the two eyes was symmetrical or unsymmetrical ;—they were,

symmetrical	in	10	=	28 per cent.
unsymmetrical	in	26	=	72 “

In these latter cases are to be found all possible deviations from the law of symmetry.

7th. The results of treatment by cylindric glasses vary greatly, even when it is certain that the optical defect is accurately corrected. “Some of the best results attained were in the highest grades of astigmatism, showing that in other cases, in which less improvement was observed, the eyes were otherwise defective.” The conclusion is, that in a case of ametropia with astigmatism we may expect, by patient investigation of the case, to attain as good a visual result as if it were a case of simple ametropia ; and in a case of simple astigmatism the failure to attain a substantially perfect result must be accepted as evidence of some defect other than a regular refractive anomaly.

Dr. NOYES reported eight cases of Astigmatism selected from his case-book, as examples of the great variety of refractive disturbance, and especially of the frequent existence of great differences in the two eyes. His design is “to show the importance of making an exact correction of each eye by itself, not doubting that when each is made as perfect as possible, it will be ready to cooperate with its fellow in binocular vision.” “It is interesting to know that in instances where the difference between the two eyes was very great, and naturally the retinal images would differ in size even after correction, that the patients were cured

of painful symptoms and enabled to enjoy comfortable binocular vision." "The mode of testing was partially by GREEN's diagrams and partially by JAVAL's optometer."

Astigmatism doubtless depends, in the great majority of cases, upon a congenital asymmetry in the curves of the refractive media, and chiefly of the cornea; it may, however, result from a change of form dependent on softening of the cornea from disease, or upon the imperfect restoration of the corneal curves in the healing of wounds, or the cicatrization of ulcers. But typical cases of astigmatism are occasionally observed in which none of these causes can be traced, and yet the evidence seems fully to warrant the conclusion that the eyes were originally normal. Dr. POMEROY relates a case occurring under circumstances which seem scarcely to admit of error in the diagnosis. The patient, thirty-eight years of age, an artist by profession, complained that for about five years objects had appeared elongated and indistinct;\* he was unable also to use his eyes long at a time without pain. With concave cylindrical glasses of fifteen inches focus vision is perfect. "With these glasses he has worked for more than a year, sometimes using them twelve or fifteen hours a day, without pain to the eyes."

Of the four papers upon *Cataract* three are devoted to the new method of "Modified Linear Extraction," or, as it is more appropriately named by Professor KNAPP, "Lineal Section in the Scleral Border." As compared with flap extraction the "modified linear" method may be said to consist, 1st, in a smaller incision made rather beyond the visible limits of the cornea, and at its ends encroaching somewhat upon the sclerotic; and 2dly, in the excision of a portion of the iris. The mutilation which it involves is not necessarily very great, for the upper section of the cornea is almost always chosen, so that the site of the excised sector of iris is covered by the upper lid. The latest views of two of the most eminent European authorities in this operation are given in Dr. HAY's "Report on the Progress of Ophthalmology." Professor VON GRAEFE prefers to make the incision a little larger than he at first recommended, and now holds that an opening of five lines (5") in length is on the whole that best adapted to give exit to a hard cataract of full size. Professor KNAPP makes the incision shorter, that is from four to

\*For illustrations of some of the characteristic phenomena of astigmatic vision, see Vol. V., new series, of this Journal, p. 107.

four and a quarter lines ( $4''$  to  $4\frac{1}{4}''$ ) in length, but for large and hard cataracts he gives it a curved outline, and thus really cuts a small flap not unlike that which may be made by the ordinary cataract knife.

Two important papers on this operation are communicated by Drs. H. D. NOYES, of New York, and E. WILLIAMS, of Cincinnati. Dr. NOYES pronounces strongly in favor of an incision of from five to five and a half lines ( $5''$  to  $5\frac{1}{2}''$ ) in length; Dr. WILLIAMS says from four and a half to five ( $4\frac{1}{2}''$  to  $5''$ ) lines, which agrees with the present views of v. GRAEFE. Both Dr. NOYES and Dr. WILLIAMS make the middle of the incision as nearly as possible in the corneal margin; KNAPP makes it in the sclerotic, at least half a millimetre ( $1\frac{1}{4}''$ ) from the edge of the cornea. Dr. NOYES is not altogether satisfied with the narrow ( $1''$  wide) knife of v. GRAEFE, and has proposed one of a new form. "From the point the cutting edge is the arc of a circle of four inches radius; at the summit of the arc the edge is prolonged backward, parallel to the [straight] back, for a distance of four lines, making the distance from point to heel one and a quarter inches." These knives are made of two widths; the smaller, which is oftenest used, measures three millimetres in width, the larger, four. We regret that Dr. NOYES has not given a drawing of his knife, which seems a decided improvement upon those which have been previously described.

As regards the use of anæsthetics in this operation, Dr. NOYES gives *chloroform* to the extent of producing profound narcotism. Dr. E. WILLIAMS, on the other hand, has abandoned all anæsthetics "except in persons who have little or no self-control, or who refuse to make the trial."

The statistics of this method are enlarged by the report of a second hundred (100) cases by Professor KNAPP, twenty-one (21) cases by Dr. NOYES, and forty-seven (47) by Dr. E. WILLIAMS,\* an aggregate of one hundred and sixty-eight (168) operations. Restoration of vision was

perfect	in	143,	or	85	per cent.
partial	in	15,	or	9	"
eye lost	in	10,	or	6	"

Both Dr. NOYES and Dr. E. WILLIAMS declare their convic-

\*For the statistics of about six hundred (600) cases operated upon by this method, including the first hundred reported by KNAPP, see Vol. V., new series, of this Journal, p. 176.

tion of the decided superiority of this method over those previously employed.

Dr. G. HAY, of Boston, described a new and useful form of *cystitome* for facilitating the division of the crystalline capsule in this operation.

Dr. H. W. WILLIAMS, of Boston, reports forty-four (44) cases of his new operation of "Flap Extraction with Suture of the Cornea," being all the cases in which he had performed it during the year preceding the meeting of 1868.\* Of the forty-four (44) operations, four are too recent to report, but seem to be perfectly successful; in the remaining forty (40) cases the results were perfect enough to admit of

reading ordinary type, in 32, or 80 per cent.  
seeing enough to go alone, in 4, or 10 "

In these cases the result remains imperfect in consequence of capsular remains covering the pupil; they are, therefore, classed provisionally as partial results, although it is probable that in all four complete success may be obtained by secondary operations.

Failure occurred, in 4, or 10 per cent.

In two of the failures the eyes were previously diseased, and an unfavorable prognosis was given before the operation; a third failure was the fault of the patient insisting on going home a few days after the operation, but after the corneal wound had healed and all seemed to be doing well: the fourth was a case of supuration of the flap.

"In no case have any unfavorable symptoms, beyond, in some cases, a slight irritation, arisen, which could possibly be ascribed to the suture; and it has appeared that the healing of the wound has been accelerated and hernia of the iris prevented by its use, thus securing important advantages and shortening the *critical* period, as well as abridging the whole term of treatment."

Dr. H. W. WILLIAMS always uses anæsthetics, generally and preferably *ether*, as affording the important advantage over chloroform, that the deepest narcotism may be secured with entire freedom from danger.

The first sixteen of these operations were performed by the upper section, the remainder by the lower section.

\*An account of this operation, with an analysis of twenty-five (25) cases treated publicly by it in the Boston City Hospital, was published in this Journal, Vol. V., new series, p. 181.

A very important paper upon "*Retinitis in Glycosuria*," by Dr. H. D. NOYES, contains a careful report of the retinal changes observed during a period of six months in a marked case of diabetes mellitus. The case, as reported, is a model of thorough and intelligent investigation, and fully warrants the conclusions of the author "that pure glycosuria is capable of causing retinitis, and that the ophthalmoscopic appearances cannot be distinguished from those which belong to albuminuric retinitis."

Dr. E. L. HOLMES, of Chicago, reported thirty-two (32) cases of extirpation of eyes destroyed by injury or disease, as a curative procedure in, or as a precaution against, *sympathetic inflammation of the other eye*. A similar case was also communicated by Dr. J. F. NOYES, of Detroit. The reports as published are, however, not full enough to enable us to draw any useful conclusions, and we therefore pass them over in the hope that the formal discussion of this subject, which is appointed for the next meeting of the Society, may enable us to present to our readers new and valuable facts upon this most distressing and woefully neglected disease.

A modification of BOWMAN's *Probes for the Lacrymal Passages* was recommended by Dr. H. W. WILLIAMS, of Boston, at the meeting of 1867. "These modified probes have bulbous extremities, of the sizes of BOWMAN's series, but are quite slender for an inch above the bulb. They are made of alloyed silver, that they may have an elastic flexibility without being liable to bend upon themselves in encountering obstructions."

Dr. J. GREEN, of St. Louis, described an improved method of treating *lacrymal obstructions*, especially adapted to the worse forms of disease of the sac, such as traumatic obstructions of the sac and nasal duct, chronic thickening, distention, or granulation of the sac, and fistula lacrymalis. The method is essentially that of Dr. E. WILLIAMS, of Cincinnati,\* but differs from it in the substitution of soft lead for the rigid styles of silver used by that surgeon. The styles are inserted through an opening in the sac made by slitting the *upper* punctum. The advantages claimed for the leaden styles over those of silver are (1) that they may be worn with a greater degree of comfort; (2) that under their use the discharge from the sac very soon becomes mucous and rapidly disappears without medication of the sac

\*Described in Vol. V., new series, of this Journal, p. 18.



by syringing or otherwise; (3) that a less degree of dilatation, by the use of a smaller size of style, answers for the completion of the cure, thus shortening the period of treatment; and (4) that for these reasons the plan is particularly suited to cases in which patients are irregular in attendance, or when for any reason but a short time can be spared for treatment. The styles are of six sizes, ranging from one to two millimetres in diameter (1.) (1.2) (1.4) (1.6) (1.8) (2.) and corresponding to Nos. 19 to 14 of the common wire guage. They are cut to a length of two inches, and finished by rounding one end; the upper end is bent over into a hooked form either before or after the style is inserted.

Dr. H. DERBY, of Boston, reported two cases of *Chronic Glaucoma*, in which the instillation of a solution of atropia, (1-120) for purposes of ophthalmoscopic examination, was almost immediately followed by an outbreak of *acute glaucoma*. In view of the seemingly intimate connection between the application and the acute symptoms which followed, in one case within an hour, and in the other in the course of the same day, he raises the very important question: "Whether the use of mydriatics may occasion an access of acute glaucoma in an eye already predisposed to the same?"

Dr. T. G. MORTON, of Philadelphia, reported a case of extreme tension of the eye-ball with severe pain, dilatation of pupil, and opaque crystalline, in which the glaucomatous symptoms proved to be the effect of an *intraocular tumor* of malignant character.

Communications were also made by Dr. B. J. JEFFRIES, on *points in the physiology of vision*, a lucid geometric *analysis of the inclination of the vertical meridian of the eye-ball for the direction of vision upward and outward*, by Dr. G. HAY, and a *modified series of test-letters for determining the acuteness of vision*, by Dr. J. GREEN; they are, however, upon subjects not especially calculated to interest the readers of a journal like ours.

Dr. JEFFRIES also reported a fatal case of *Herpes Zoster Ophthalmicus*, occurring in an old lady. We cannot do justice to this elaborate paper in the space at our command, but may possibly be able to refer to the subject in another connection.

Upon Dr. HILDRETH's paper on "*Anæsthesia of the Cornea*"

and *Radiating Fibres of the Iris*," treated by division of the ciliary ring, we withhold comment, as we do not at present feel sufficiently familiar with the class of phenomena which he describes.

Two very elaborate and exhaustive papers by Dr. E. G. LORING, of New York, upon *Relative Accommodation*, and *A Discussion of the sufficiency of the generally accepted Tests for the Insufficiency of the Recti Interni Muscles*, have been already published in full in the medical journals. It is impossible to do justice to either in a brief abstract, as they treat of subjects connected with points in physiology still in some degree under discussion; they have already been read with much interest by the class of practitioners to whom they are especially addressed.

We hail with satisfaction the birth of the "AMERICAN OTOLOGICAL SOCIETY," organized last year upon a plan identical with that of the "AMERICAN OPHTHALMOLOGICAL SOCIETY," by some of the members of the latter body. The new Society is to hold its annual session at the same place and upon the day preceding the meeting of the Ophthalmological Society.

J. G.

1. *CASES IN ORTHOPÆDIC SURGERY*, read before the Massachusetts Med. Society by BUCKMINSTER BROWN, M.D. Boston: David Clapp & Son, 1868. 8vo., pp. 23; 8 photogr. plates.
2. *ON THE TREATMENT OF CLUB-FOOT WITHOUT TENOTOMY*. By LEWIS A. SAYRE, M.D., of New York. Transactions of the Amer. Med. Association, 1868.
3. *PRACTICAL MANUAL OF THE TREATMENT OF CLUB-FOOT*. By LEWIS A. SAYRE, M.D., Prof. of Orthopædic Surgery in Bellevue Hospital Medical College, etc., etc. D. Appleton & Co., New York. 1869. 12mo., pp. 91.

The first publication is of modest pretension. It purports to illustrate by a number of cases, what may be achieved in deformities of the feet by patient and rational treatment. There is no necessity for this sort of literature, nor is there any objection to it. From all indications, Dr. BROWN has given the subject the earnest attention of years, and could have benefited the profession infinitely more if he had transmitted his practical and pathological knowledge.

The second and third publications challenge critical rigor by their portentous titles and assertions. We confess we have no

particular favor to bestow upon the leaves of an author which drop in as literary forget-me-nots at certain seasons, and which are occasionally very stale at that; nor do we sympathize with writers who labor constantly and exclusively for "suffering humanity," and covet cheap popularity.

In his report to the American Medical Association, Dr. SAYRE takes upon himself to show that club-feet can be successfully treated without tenotomy. To our knowledge nobody has ever doubted it, and it did not require the reassurance of the author! Every surgeon is fully aware that there are cases of club-foot which may be corrected by the human hand, bandages and splints, eventually with the assistance of chloroform. So Dr. SAYRE does not tell us anything new. Moreover, Mr. BARWELL had published a whole volume on the subject, containing all the information that could possibly be desired. But we know, likewise, that there are very few cases of club-foot that will yield to elastic extension. The advocates of this plan know this fact full well, for they frequently put in requisition the brisement forc  and the knife. The author himself is still a believer in the serviceability of the tenotome, and, notwithstanding the pretentious title, he uses it in the very cases which he publishes to sustain his new position.

In fact, the Dr. simply ruminates what others have said and done before him; nor do we expect any originality from that source; even "Dr. SAYRE's improved club-foot shoe" clearly evinces its prototype. But still, original or not, we think it is a good construction, and give the Dr. the credit that belongs to him. He is altogether a good hand at mechanical improvements upon the ideas of others; it was the very same thing with Dr. DAVIS' hip instrument. The trouble with the author is, however, that he withholds the credit which is due to others, and it is not the first time that he got himself into a false and rather disagreeable position by the assumption of originality.

The most ingenious part of the paper is obviously its title. It is well calculated to give the Dr. the advantage over every other surgeon, for it assures every timorous parent and patient that the treatment of club-foot can and will be effected without the use of the knife. Now it is evident, since the author still uses the tenotome, that he sails under false colors and pretences, and does the very thing we justly condemn in quacks.

The last publication is the only one which the author ever put in print for any other purpose than subserving "suffering humanity." It is devoted this time to the physicians and students who have listened to his lectures. The Doctor, in his dedication, considers this "practical monograph" as "the first instalment" of a complete work on orthopædic surgery. If the author can produce nothing better than this first instalment, he had better drop his literary aspirations, for we have not met with a more contemptible contribution to surgical literature for many a year.

Dr. SAYRE knows of "no authority on the subject," except his own report which he presented to the Amer. Med. Assoc. Surely a very cool and modest assertion. There is no such book as the "Prize Essay on Club-foot," by ADAMS, nor the "Lectures on Orthopædic Surgery," by BRODHURST, nor the book of PRINCE. How convenient and blissful ignorance is! The author differs, however, from his great prototype in London, by rather disavowing spastic contraction, which is the well-known hobby of BARWELL, and substitutes muscular paralysis, which, of course, he relieves in a fabulously short time by elastic tubes. The Doctor is proverbially very successful in all he undertakes, and the word "failure" has no place in his dictionary. Who but he would have been cured of paraplegia by taking a trip on the overland route to San Francisco?

L. B.

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*PHOTOGRAPHS OF DISEASES OF THE SKIN*, taken from life, under the superintendence of HOWARD F. DAMON, A.M., M.D., etc. Second series. Boston: James Campbell, (1869). 6 phot., 4to. Price \$3.00.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

When the first series of these photographs appeared, we expressed ourselves favorably concerning the enterprise, and wished it success through a generous support from the profession. We now repeat our opinion of the very considerable merit of these illustrations.

The second series embraces photographs of cases of alopecia, herpes, and ichthyosis. The first two, *Alopecia areata* and *Alopecia circumscripta*, are very good pictures. The two cartoons showing a case of Congenital Ichthyosis of the arms and limbs might have been better, if the light had been more judi-

ciously arranged; the disease on the arms would have been presented more satisfactorily, if one arm only had been taken, thereby bringing the essential parts of the picture into the centre of the plate. We remarked in the previous notice that most of the pictures are a little too small; in the two illustrations of Herpes this defect becomes serious, and impairs the utility of the pictures. There is no reason for it that we can imagine; if the author of the collection deemed it best to portray the entire face (on which the disease, in one case, occupies but a very small spot)—a position which can be successfully defended, we think,—it was certainly unnecessary to include the amount of dress here displayed. The diseased spot could have been presented with an area nine times larger, and with far greater distinctness, without excluding any part of the head from the picture.

We dwell upon this point because we consider it important to the future of an undertaking which deserves success. We appreciate the difficulties Dr. DAMON and the photographer, Mr. LINCOLN, have to battle with in furnishing good representations of well selected cases, and hope our little criticisms will be received in the friendly spirit in which they are written.

G. B.

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*DICTIONNAIRE ANNUEL DES PROGRES DES SCIENCES ET INSTITUTIONS MEDICALES. Suite et complément de tous les dictionnaires. Par M. P. GARNIER. Précédé d'une Introduction par M. le Docteur AMÉDÉE LATOUR. 5me année, 1868.*

[Annual Dictionary of the Progress of the Medical Sciences and Institutions. A sequel and complement to all dictionaries. By M. P. GARNIER. With an introduction by Dr. A. LATOUR. 5th year, 1868.] Paris: Germer Baillière, 1869. 18mo., pp. XLII, 528.

This valuable annual may be best described as the French "Braithwaite" or "Ranking." It differs, however, from the British retrospects in that it is so arranged as to serve as a work of reference, rather than to supply reading matter for the leisure hours of the practitioner. Moreover, M. GARNIER is not content to merely reproduce verbatim the more important articles of the medical literature of his own country, as is the easy practice of his British contemporaries; his "*Dictionnaire*" is a thoroughly digested report on all the achievements of the year, and in this respect resembles the German "*Jahresberichte*." The

articles are arranged alphabetically, as the title indicates. The majority of items are, it is true—and natural, also—of French origin ; but we are gratified to see German, English and American, as well as Italian and Spanish, literature taken into account, and many of the important articles are collated from foreign periodicals.

M. GARNIER's annual report would no doubt find quite a number of subscribers in this country, if once fairly introduced. A file of the *Dictionnaire* will be of great value, and, as it grows, acquire importance in geometrical progression.

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*A TREATISE ON THE FUNCTIONS OF DIGESTION; ITS DISORDERS AND THEIR TREATMENT.* By F. W. PAVY, M.D., F.R.S., F.R.C.P., Senior Assistant Physician to, and Lecturer on Physiology at, Guy's Hospital. From the second London edition. Philadelphia: Henry C. Lea, 1869. 8vo., pp. 246. Price, \$2.00.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

Mr. LEA has made a judicious addition to the American book-market in the reprinting of Dr. PAVY's book ; (for there is no doubt that, under present relations, a reprint on this side of the ocean actually secures a far greater circle of American readers to a British book, than the importation of the London original ;) and the work before us is one which deserves a wide circulation.

Dr. PAVY gives us an admirable exposé of the physiology of digestion. Having disposed of mastication, insalivation and deglutition, he treats of dysphagia ; he is very brief on that form arising from mechanical causes, but enters fully into the dynamic form of dysphagia, arising from either spasm or paralysis of some portion of the muscular apparatus concerned. (We note that the author regards the *globus hystericus* as due to "a reversed spasmodic action of the œsophagus.")

The section on gastric digestion occupies one-fifth of the book, and is a serviceable basis for the study of the digestive disorders of the stomach. A large part of it is devoted to the consideration of the reasons for "the escape of the stomach from self-digestion," which is a question so intimately connected with the physiology of the digestive process that its successful solution is one of the best means of illustrating the whole subject. Our readers are acquainted with Dr. PAVY's explanation : he regards

the circulation of the alkaline blood in the walls of the stomach as the protecting agency against the solvent action of the gastric juice.

The next chapters discuss the various symptoms of gastric disturbance: vomiting, eructation, rumination, perverted appetite, pain and other morbid sensations, flatulence, heartburn, water-brash, acidity. It will be noticed that we are not here reading a treatise on diseases of the stomach, but, strictly speaking, a work dealing of the symptomatology and semeiology of the digestive organs, together with the treatment of the states giving rise to the symptoms spoken of. The practical advantages accruing from this mode of treating the subject are very plain; it is this point especially wherein the monograph of Dr. PAVY differs from the corresponding portion of the systematic works on practice, which it does not attempt to supersede, but to supplement.

The physiology of intestinal digestion also occupies, like the section on gastric digestion, a fifth of the whole. It is succeeded by chapters on colic and enteralgia, intestinal flatulence and tympanites, diarrhœa, and constipation; and the book closes with an article on artificial digestion as a means of dissolving meat for producing an article of nourishment for the invalid.

We know of no better guide to the study of digestion and its disorders than this little work of Dr. PAVY. Although it is less complete and full of practical hints than the corresponding work of Dr. CHAMBERS, it affords an excellent foundation for clinical studies.

G. B.

## Extracts from Current Medical Literature.

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### MEDICAL PRACTICE AND THERAPEUTICS.

5. *Apoplexy in a Boy of Fifteen Years.* By JUDSON B. ANDREWS, M.D.

[*Amer. Journal of Insanity*, Jan., 1869, p. 359.]

J. M., æt. 15. Nothing extraordinary or peculiar in physical development; was healthy during childhood; at school learned easily, and retained knowledge acquired. In disposition cheerful and kind, at home obedient, easy of control, and manifested no desire to seek improper associates. Suffered from no serious disease till April, 1868, when he had a severe attack of typhoid fever, and was sick for three months. During the course of the fever he was delirious about two weeks. Although he recovered, he did not regain his former degree of strength and flesh. At this time he gave evidence of mental disturbance in a marked change of disposition and conduct. Began to pilfer from the gardens of neighbors, sought evil associates, became profane, disobedient to his parents, irritable in temper. Struck a little sister without provocation, and when reprovved and punished, exhibited strong paroxysms of anger; also danced and sang comic songs, all of which was contrary to his former life and habits. In August last, while at play, he was hit on the head by a stone thrown by a comrade. A flesh wound was inflicted penetrating to the bone. This afterwards gave his parents considerable anxiety, as they feared the injury might be of a permanent character, and result in an increase of the cerebral disorder. The history as given above was obtained at the time of his admission to the asylum, in September, 1868. He replied readily and intelligently to questions, exhibited no peculiarities of speech or manner, was in a fair state of flesh, eyes bright, pupils dilated, countenance somewhat pale and anemic, no complaints of headache or other bodily ailment. For a few days, patient gave no special indication of insanity, but soon became profane, put outside clothing in bath tub to wash it; ate voraciously, and at times vomited food; was contented and cheerful. On being spoken to, restrained himself, and afterward by his conduct gained the good will and regard of all. He was obedient, and anxious to make himself useful. There was little change in physical condition and no marked evidence of disease. On the



morning of the twelfth of November, he asked to assist in some light work on the ward. After a few moments he suddenly complained of headache and pain in stomach, and was put to bed. He soon screamed, and passed into a convulsive state, in which there was opisthotonos, and bowels and bladder were evacuated. He immediately became maniacal, which condition lasted about two hours, then was rational and conversed freely, but complained of pain in his head. Countenance and lips were blanched, but there were no other signs of serious trouble. Said he felt at times as though he had swallowed tobacco. He continued thus till four P. M., when he died suddenly without convulsions. Autopsy, at request of friends, sixteen hours after death. Sub-arachnoid cavity was filled with thin layer of blood which seemed to have escaped from the vessels of pia mater, which were much congested. The hemorrhagic effusion, although well marked over the convex surface of the hemispheres, was more abundant anteriorly and about the base of the brain. At the point of decussation of the optic nerves there was a considerable quantity of clotted blood. The two lateral and also the third and fourth ventricles were filled with blood clots and liquor sanguinis. The cerebral substance appeared normal in color and consistency, but the microscope revealed an advanced degeneracy of the walls of the blood vessels. There were no evidences of injury to the skull or membranes beneath the part struck by the stone. (Notes of autopsy from report of Dr. E. R. HUN, special Pathologist to the Asylum.)

There are several points of interest in the case reported above. Apoplexy in the young is extremely rare. MUSHET, in an analysis of a large number of cases, finds but six occurring before the age of twenty. ABERCROMBIE gives only one case of true apoplexy as early as the ninth year, and (MUSHET) "it is evident from the symptoms and the 'effusion of coagulated blood enveloping the whole extent of the cord' that it was extension of hemorrhage from the spine upwards." ANDRAL met with a case of cerebral hemorrhage in a boy of twelve, and COPELAND with one in a patient of eighteen years. In none of these cases, so far as can be learned from the notes given, was the effusion as extensive as in this one. Whether the arterial degeneracy discovered in the cerebral vessels extended to the larger vessels of the body we did not have the opportunity to ascertain. From this case, in which the actual disease developed was in such disparity with the mental disturbance manifested, should it occasion surprise that we often witness the most marked mental symptoms where the physical lesion may be inappreciable to any known method of examination? During the attack which terminated life there was at no time a condition which could be called a state of coma, for as we have stated there was a blanched appearance of the countenance, and the patient conversed rationally and freely to the moment of death. May it not have been that in the morning there was a slight effusion from the meningeal vessels, which would account for the convulsion followed temporarily by maniacal symptoms, and that the large effusion was so suddenly poured out that it instantly destroyed life, thus realizing to its full extent the original and proper meaning of the term apoplexy?

6. *On the Pathogenesis of Tetanus.* Abstract of a clinical lecture delivered by Prof. BILLROTH, Vienna.

[*Wiener mediz. Presse*, Jan. 10, 1869.]

The views on the origin of tetanus have always been uncommonly fluctuating. Many assign as its cause injury to nerves, others injury to tendons; some believe that it occurs during high temperature, others that it originates from taking cold,—but none of these views has in any way been confirmed.

It is interesting that cases of tetanus rarely occur singly, but are much more frequently observed in groups. Thus we find that after great battles a large number of cases usually occur together, in some hospitals.

What conclusion should we draw from this? I should think that it speaks loudly against the view that tetanus takes its rise from the nerves, that irritation of a nerve produces tetanus, that the latter is, as it were, a neuritis, or spinal meningitis, or inflammation of the spinal marrow itself. This often asserted theory is very improbable in view of this one fact alone, that tetanus occurs in little epidemics.

There has been put forward another view, which at first appeared to me as unhappily conceived as the former; but the more I reflected upon it, the more faith I acquired in the view *that tetanus is based on a blood disease* and is a *pyæmic intoxication*, or related to it, in as much as it is owing to a poison that is developed in the wound, but which differs in kind from the pyæmic poison. This view is supported by comparison with hydrophobia and rabies. Here also we have a morbid process which is developed in the organism, and presents similar phenomena as regards the spasm of the muscles of mastication and the general symptoms.

We are acquainted with a poison—strychnine—which when introduced into the blood will cause similar symptoms as those of tetanus and trismus, and it is possible, at any rate, that the whole process of trismus may arise from a blood disease; I therefore believe that the assertion could be made with much justice, that a poison produced by a peculiar process of decomposition, and carried into the blood, is the cause of the disease. To give this theory a basis in fact, experiments should be instituted. . . . . [The author intends to undertake this investigation.—ED.]

The view that trismus is very nearly related to hydrophobia is an old one; nay, there are pathologists who defend this view even to-day. This assumption, however, is difficult to maintain, because the two diseases nevertheless present certain differences. The most remarkable symptoms presented by these diseases are the combinations of convulsive phenomena. Thus we have, in tetanus, spasm of the masticators combined with spasm of the spinal muscles; the same combination occurs in hydrophobia and in the rigor of fever. There are paroxysms of intermittent fever in which the body of the patient is raised or even thrown upward by the spasm; it has been observed that children in simple febrile attacks have chattering of the teeth and general convulsions. I also believe that the element which is the chief characteristic of trismus is the same in the chill also; and it would therefore be justified to assume that trismus is the consequence of an infection. . . . .

A distinction is made between *rheumatic* and *traumatic tetanus*. In the cases that have been presented to me as rheumatic tetanus, injuries have always been present; they were usually very trifling injuries, or merely cicatrices. In the case observed in our clinic last year, there was an injury of the nasal region inflicted by a thorn, which was already nearly cicatrized. I believe that tetanus is no more capable of arising spontaneously than erysipelas; that every case of erysipelas starts from an injury, a parenchymatous inflammation; a slight injury to the scalp, a slight inflammation of the gums may lead to erysipelas. A most insignificant wound may be infected, and need not on that account present any peculiar phenomena. Not every poison that causes violent general symptoms is capable of inducing inflammation. The poison of rabies causes no inflammation; the wound commonly heals by first intention; but though the wound heals with extraordinary rapidity, though the local phenomena offer nothing remarkable, an infection may yet arise from this quite insignificant wound.

The assertion that tetanus is based on an ascending neuritis and finally on an inflammation of the medulla spinalis, especially its middle portion, gets little support from recent investigations. It seems indeed that in many cases the post mortem examination reveals an increased amount of blood in the medulla. But in a disease like tetanus, if anything is to be said of the amount of blood, the dead body should not be laid on the back; for, as in

many other morbid processes, so also in tetanus, the blood remains fluid and gravitates within the vessels into the dependent parts of the body, and it should not surprise any one if the spinal marrow, kidneys, and posterior parts of the lungs be found hyperæmic. Therefore, if we would learn the pathological condition of the medullary substance, the subject should be laid on the belly until the autopsy is made. All cases in which this caution was not observed, are of no value at all. In our case, as we have seen in the post mortem examination, the marrow was quite devoid of blood.

7. *Spasm of the Group of Muscles supplied by the Musculo-Spiral Nerve.* By WM. ALLAN JAMIESON, M.B.

[*Edinburgh Medical Journal*, Jan., 1869, p. 623.]

On the 14th of January, Dr. PHILIP MACLAGAN asked me to see a man in his consulting room, who was suffering from a peculiar spasmodic action of the muscles of the left arm, to whom he gave a recommendation as an out-patient of the Berwick Dispensary. As the case seems an unusual one, I take this opportunity of making it known.

J. T., æt. forty, blacksmith, is of average physical development and healthy appearance. Till two and a half years ago, when, he says, the first symptoms of his complaint appeared, he enjoyed good health. At that time, when employed at some rather heavy work at Hexham, he began to feel a severe pain in the back of his left hand, extending along the tendons from the wrist to the distal ends of the metacarpal bones. The part of the hand in which pain was felt was, he says, swollen.

By degrees the painful sensation became that of cramp, and six months ago it assumed its present character. A point in his family history deserves attention. Two brothers became insane, their symptoms at first being those of melancholia.

Whenever J. T. attempts to use his left hand, as in grasping any object, it is adducted to the ulnar side, then supinated, and finally dorsiflexed. This series of movements happens in whatever position the hand may be placed; more slowly when the fingers are fully extended, or when volition is strongly exerted to oppose it; most rapidly when the arm and hand are in the position they would be when grasping an object partly resting on the anvil. When the muscular spasm occurs, he feels an aching sensation in the back of the hand, but nowhere else. Both arms are equally well developed. There is no wasting of the flexors. Sensibility, too, is perfect on the back of the hand. Of late, at night he passes at times, when in bed, into a dreamy state, in which he is conscious of what is going on around him, but cannot speak or move. When awakened from this state by some one, he feels giddy and agitated. He speaks clearly and distinctly, without hesitation, and has no appearance of a man suf-

fering from any mental hallucination. No derangement of digestive system. Pulse 72, regular.

Believing this to be a case much resembling scrivener's palsy, and arising from imperfect co-ordination of the muscles, due to over-work at first, and kept up by continuance of the exciting cause, I ordered him to give up his occupation entirely for a time, to have a blister eight inches by two applied along the line of the affected muscles on the back of the fore-arm, and a tablespoonful of the following mixture thrice a day:—*R. potassii iodidi*, gr. xxxvj.; *spiritus ammon. ar.*, ʒ iij.; *infusi gentianæ*. ad ʒ vj. The blister was repeated twice at intervals of a few days, and on the 29th of January I increased the dose of the iodide to five grains.

On the 6th of February he had regained perfect use of his hand, and on reassuming work was delighted to find he could again earn his full wages, which he had not done for more than two years. He now very seldom suffers from his peculiar nocturnal attacks.

#### 8. *Remarks on Certain Affections of the Vaso-motor Nerves.*

By J. RUSSELL REYNOLDS, M.D., F.R.C.P., etc.

[*British Medical Journal*, Dec. 26, 1868.]

There are uneasy feelings, such as "numbness," "coldness," "deadness," and "weakness" of the limbs, which often come on suddenly, disappear, and again return, causing great discomfort to the patient, and sometimes considerable alarm, the precise nature of which has not, so far as I know, been defined. These feelings are sometimes the indication of disease in the brain or spinal cord, and sometimes the result of local interference, by external pressure, with either the innervation or blood-supply; but they are, I believe, much more commonly due to a condition altogether different—viz.: to a paroxysmal affection of the vaso-motor system of nerves. If I am right in my inference with regard to them, their pathological significance is not that which has been hitherto maintained; and their treatment should be conducted upon a plan different from that which has been ordinarily followed. Symptoms, analogous to those I have mentioned, occur elsewhere than in the limbs, and may, in my opinion, receive a similar explanation. The subject, therefore, is one of wide interest to both the pathologist and the physician; for, acting upon the suggestion which I am about to offer, numberless discomforts, and much alarm, of the kind that has been mentioned, have been removed, after other measures had been adopted but without success.

My attention was directed to this subject nearly four years ago, by observing a very curious case, of which the following are the most important facts.

A lady, about thirty years of age, met with an accident in which her collar-bone was dislocated at its sternal end. She had been previously in good health, but afterwards became "nervous," and suffered much pain in the lower part of the neck. The spinous processes of the sixth and seventh cervical vertebræ were tender upon pressure; and I noticed

that, when pressing upon them, there was a slight pallor of the face, trifling duskiess about the lips, and sometimes just perceptible dilatation of the pupils. These changes were accompanied by an indefinable sensation of uneasiness in the right arm, and by distinct pain at the seat of pressure. A similar series of events occurred every now and then when no pressure was exerted; and the patient complained of occasional uneasiness in the head, with some slight obstruction of consciousness. Being anxious to ascertain further the effects of pressure on the spinous processes, I requested Dr. BRIDGE, in consultation with whom I saw the patient, to press upon the spinous processes while I examined the pulses at the wrists. Both radial arteries were beating steadily; but, the moment that the vertebræ were pressed upon, the pulse in the right wrist became enfeebled; and, after a few seconds, the pressure being continued, it ceased altogether. There was no failure in the action of the heart; the left radial pulse remained unchanged; and, the moment that the pressure was withdrawn, the circulation returned in the right radial. The beat of the subclavian artery was sometimes imperceptible, but that of the brachial just above the elbow could always be discerned. These phenomena were so interesting and so singular, that the observations were repeated many times, and were witnessed also by Dr. WALSH and Dr. ANSTIE. Attempts were made to obtain a sphygmographic tracing of the pulse; but it was, at that time, impossible so to adjust the instrument as to obtain a distinct trace. There were no signs of either cardiac or vascular disease to be detected by the stethoscope.

The subsequent history of this case I am unable to furnish, for the patient has gone beyond the reach of my observation; but the facts I have described were observed more than a score of times by myself and by the gentlemen I have mentioned. They are these: that, in obedience to an external influence, which occasioned pain in the lower cervical region, the circulation was arrested in the periphery of the right arm: and that this arrest was attended by an uneasy sensation in that extremity, and by some slight change in the circulation of the face and head.

Following out the suggestion afforded by this case, I have, since its occurrence, examined carefully the circulation in all patients that have complained to me of altered sensations in the limbs. Many times, when there has been tenderness of the spine, I have examined the radial pulses; and, although I have often found one or both of them rendered irregular by pressure upon a painful spot, I have not again observed an absolute arrest of the peripheral circulation.

A local interference with the circulation in the limbs reveals itself to the patient by the following symptoms:

1. Occasional sudden, paroxysmal feeling of "numbness"—a term employed by some to denote the sensation of "pins and needles;" by others, that of "deadness and "weakness;" and by a third group, an "indescribable feeling of something wrong."

2. The feeling of "largeness," or "as if the limb were swollen;" there being, at the time of its occurrence, no change in the size of the extremity.

3. The occurrence of "aching," of "uneasiness," or of actual "pain;" the latter not being severe.

4. The feeling of "coldness," and occasionally the obvious fact of coldness.

5. The fact of sudden weakness, sometimes termed a "paralyzed feeling;" the patient being unable to retain the grasp of an object, and hastily putting it down, or allowing it to fall. At such times, the muscles do not respond readily to the will; the coordination of movement is defective. Such acts as writing or needlework have to be discontinued; and generally such patients rub the limbs, by, as it would seem, an almost instinctive impulse.

6. The occurrence of sensations allied to cramp, or that of actual cramp, with varying amounts of pain.

Where symptoms of the kind I have mentioned occur paroxysmally, I have almost invariably found a distinct interference with the local circulation. Such interference may be displayed by changes in color and temperature, or by alterations in the force or rhythm of the pulse. The fingers or toes sometimes become white, sometimes of a dusky grey tint; they are occasionally much cooler than they were before the paroxysm occurred, and cooler than are the corresponding members on the other side of the body. The pulse in one limb becomes smaller and feebler than it is wont, smaller and feebler than it is on the other side; and very often there is a marked irregularity of both force and rhythm—an irregularity altogether confined to the affected limb. Sometimes the weakened pulse intermits at every fourth or fifth beat, while that on the opposite side of the body maintains its regularity, and the action of the heart is unaffected.

The symptoms I have mentioned are very common in epileptics; they are met with in cases of chronic cerebral and spinal disease; but they sometimes exist alone, and of themselves furnish the only evidence of affection of the nervous system. They then occur paroxysmally; they involve the whole of the periphery of a limb; and they are often completely removed by the administration of bromide of potassium. They are related to a number of apparent causes; but those most commonly observed are the following:—*a.* Mental strain, intense and of short duration; or the prolongation of overwork, carried only to a medium degree of excess. *b.* Emotional disturbance, and especially that of chronic worry, but not rarely that resulting from sudden and intense alarm or grief. *c.* Violent sensational impressions, or changes in the afferent nerves, such as the neuralgiæ, shocks, bruises, and exposures to cold. *d.* Disturbances of the general health, and particularly those which involve the digestive processes.

I venture to refer the symptoms which I have mentioned to an affection of the vaso-motor system of nerves, and not to disease of the cerebral or spinal centres, for the following reasons:

1. Their frequent existence without any other indication of derangement in the nervous centres. The mind, sensation, motility, and nutrition, may be intact.

2. Their paroxysmal occurrence, and manifest relation to epileptic seizures, the essential element of which would seem to be a suddenly occurring change in the circulation of the head.

3. Their distribution in the limbs affected. They are not limited to the peripheral expansions of particular nerves; but they involve usually the whole of the extremity at its distal end.

4. Their frequent association with manifest changes in the blood-supply of the affected parts, such as pallor, coldness, irregularity and intermission of the pulse.

5. Their marked alleviation and frequent removal by the administration of bromide of potassium; and

6. Their definite relation to the very curious case which I described at the onset.

The symptoms which I have described are, I believe, of the nature of epileptic affections; the difference between them and epilepsy being this, that in the latter the disturbance takes place in the cerebral circulation, whereas in the former it occurs elsewhere.

Symptoms analogous to those I have mentioned, and owning a similar pathology, are often met with in other organs; but it is my purpose now only to enumerate those which by a parity of reasoning may, I think, meet with a like explanation. They are, paroxysmal breathlessness; some pseudo-anginal attacks; vertigo; temporary amaurosis or deafness; and paroxysmal dyspepsia, vomiting, with sudden accumulation of flatus, and their concomitant and subsequent discomforts.

My object is to remove some of the alarm which is often felt upon the occurrence of the symptoms I have mentioned, by suggesting that they do not depend, as they have been commonly supposed to depend, upon disease of the great centres of innervation; but upon a change in that system of nerves which is the most liable to disturbance, and the aberrations of which are commonly the most amenable to treatment.

9. *Contribution to the Therapeutics of Laryngeal Diphtheria.* By Dr. J. ALBU, Director of the Lazarus Hospital, Berlin.\*

[*Berliner klin. Wochenschrift*, Feb, 1, 1869.]

Laryngeal diphtheria being almost inaccessible to local treatment, inhalations and even tracheotomy being mostly unsuccessful, the latter in young children not even allowable, I have, in order to exert a dissolving influence on the diphtheritic membranes of the larynx, made injections into the latter of lukewarm lime water. To this end I entered the canula of the injecting syringe from without, usually between the cartilaginous rings of the trachea, and at first threw only a few drops, but afterwards,

\* We refer the reader in this connection to an article published by Dr. SHERWOOD, of Ohio, in the *New York Medical Journal*, and reproduced in this Journal, Sept. 1868, Vol. V., p. 441.—ED.



seeing that there was no danger in doing so, a whole syringe-ful, upwards into the cavity of the trachea towards the larynx. This was never followed by suffocating paroxysms. Violent cough is induced, and the children usually at once eject shreds of diphtheritic exudation. Thus far I have treated six cases in this manner, though only one successfully. The first five children so treated, all under five years of age, were already in the stage of suffocation, and lived, in consequence of the injection, as I am convinced, several hours longer than could have been expected. A girl of ten, affected with decided laryngeal diphtheria, in whom tracheotomy was indicated, I have saved by the injection twice a day of a syringe-ful of lime water, with the appropriate internal treatment (*Aqua Chlori, Decoct. Cinchonae*).—

We add to the above the following note by the editor of the *Wochenschrift*, Dr. WALDENBURG, which is appended to Dr. ALBU's report:

“In the treatment of diphtheria and croup, lime water has hitherto proved in my hands also the best local remedy, and I employ it partly in the shape of gargles, partly for injections into the nose, and chiefly for inhalation in the atomized form by means of the steam apparatus. Children over three or four years old usually submit to these inhalations willingly. In cases in which this method is not applicable, I could not hitherto make up my mind to have recourse to the method recommended by GOTTSTEIN, of injections of aqua calcis *per os* directly into the larynx, fearing suffocation. The method recommended above by ALBU seems to show that the fear of suffocation in consequence of bringing liquids into the larynx is not quite well founded. But whether, having resolved upon this, the injection from without has any advantage over the injection *per os*, seems *a priori* doubtful; ALBU's present communication at least cannot yet solve the doubt. When the children are old and docile enough for the use of inhalations of lime water, this method is decidedly preferable to every other local treatment.”

10. *The Acouoxylyon, a new Stethoscopic Instrument.* By Dr. PAUL NIEMEYER, of Magdeburg.

[*Gaz. m d. de Paris*, Dec. 12, 1868; and *Wiener med. Presse*, Feb. 7, 1869.]

It is very surprising that the point which is the object of this note has hitherto escaped the notice of physicians, or rather of the fervent disciples of LAENNEC.

Let us recall the manner in which the discovery of the stethoscope in use was made. LAENNEC, in the case of a young person whose age and sex forbade immediate auscultation, recollected a well known acoustic phenomenon: if the ear is applied to the end of a beam, the scratch of a pin at the other extremity is very distinctly heard. Consequently we should think that LAENNEC would have made use of a sort of beam or rather solid bit of wood to practice mediate auscultation with. On the contrary, he took a quire of paper and made a roll of it, replacing it subsequently by the sufficiently well known wooden cylinder. That is to say, instead of the solid medium indicated by the acoustic law cited above, he constructed a medium combining wood and air.

Although LAENNEC was as much surprised as he was satisfied at hearing the beating of the heart in a manner much more clear and distinct, his successors on the contrary have established the fact, that with the ear directly applied the same end is attained, and even that by the stethoscope the perception of the sound is feebler. Moreover, it is certain that LAENNEC with his cylinder perceived sundry phenomena which have not been since confirmed, and which were probably secondary sounds produced in the interior of the stethoscope, which, at the time of LAENNEC, had considerable length.

If now we recall the physical law established with precision by CHLADNI and SAVART, that wood is a conductor of sound much more intense than air; that, with regard to this conductivity, the wood of the fir tree is eighteen times superior to air; that consequently in music fir wood in the solid form is universally used when it is a question of simply conducting sound, we will ask why in medicine a hollow cylinder is used which weakens and even disturbs the perception of phenomena that it is requisite to perceive with the greatest possible clearness.

Take then the stethoscope that you have hitherto been accustomed to use, go to the turner's and order a *solid* fac simile of it in well dried *fir* wood, and formed out of a single piece, and you will have the instrument that I call the Acouoxylon, and that is the only stethoscope constructed according to the laws of physics and consequently superior in all respect to the cylinder of LAENNEC. *Probatum est!* [C. E. BRIGGS.]

To the above translation from the *Gaz. Médicale*, we may add that in a supplementary notice in the *Vienna Med. Presse*,

the author recommends a solid stethoscope of the ordinary shape (narrow cylinder, broad base) surmounted with a nipple-shaped end to fit closely into the auditory meatus, to be constructed of solid, dry, uniform pine wood.

11. *On the Use of Ether and Etherized Cod-Liver Oil in the Treatment of Phthisis* \* By BALTHAZAR W. FOSTER, M.D., etc., Professor of Medicine in Queen's College, etc., Birmingham.

[*Brit. Med. Journal*, Nov. 21 and 28, 1868.]

The disorders of digestion, associated with pulmonary tubercle, have long been known to the profession, but it is only of late years that they have attracted special attention. Numerous independent inquiries have all ended by pointing to the difficulty of assimilating fat as the constant characteristic of the dyspepsia of phthisis; and statistical observations tell that, in at least 75 per cent. of consumptive patients, this defective assimilation occurs. Adding this fact to others, such as the early and rapid disappearance of the fat stored in the tissues, the development of the inability to digest fat, antecedent to the local lesions, and the marked improvement observed in patients when the digestion of fatty matter is restored, we have, I think, evidence strong enough, in the absence of any more precise indications, to demand that our first efforts should be directed to improve this state of defective assimilating power. Some years ago, Mr. JONATHAN HUTCHINSON, writing on this subject, said, "Exceptions undoubtedly do occur, but, as a general rule, it might probably be safely laid down that the severity of the tubercular dyscrasia is measured by the difficulty with which cod-liver oil is borne. The need for that remedy is mostly in exactly inverse ratio to the facility with which it is digested."

The greatest step made for many years in the treatment of consumptive patients was the introduction of cod-liver oil; and Dr. HUGHES BENNETT, to whom we owe this great boon, expressly states "that the greatest obstacles the practitioner has to contend with are the dyspeptic symptoms." In cod-liver oil was found a form of fat which could, in many cases, be digested even by the impaired organs of consumptives; but the next step, viz., the search after some means of augmenting the secretions which are specially devoted to the digestion of fatty matters, has been hitherto neglected or unsuccessful. To pour oil into a patient's stomach, without at the same time taking measures to ensure its digestion, has always appeared to me a crude kind of therapeutics. Its simplicity has, it would seem, recommended it to the routinist; for there is probably no single remedy used in any disease with so little preliminary inquiry into the conditions favorable to its action. Experimental physiology has taught

\* Read in the Medical Section at the Annual Meeting of the British Medical Association in Oxford, August, 1868.

us that the only fluids in the body which have the power of acting upon fat, so as to render it fit for absorption, are the secretions of the pancreas and the duodenal glands. To these secretions, therefore, we must look for assistance in the treatment of phthisical patients by cod-liver oil, for on the action of these glands must the assimilation of the remedy depend. And such healthy action can scarcely be supposed to co-exist with the inability to digest fat, which is so frequent in the disease under notice. As BERNARD has shewn, the chief of these glands (the pancreas) is most sensitive to nervous influences, ceasing to form a healthy secretion from very slight irritation, and even from emotional influences. This fact, taken together with our knowledge of the peculiar character of the dyspepsia of phthisis, justifies the assumption that the pancreas secretion is disturbed. Not long since, Dr. DOBELL, holding these views, made some experiments with pancreatic emulsions of fat and pancreatine, which supported this interpretation of the phenomena, and shewed that fat when emulsified is more readily digested than in any other form. In this paper I have, however, to propose a mode of treatment which should, I think, in all cases precede the use of such remedies as pancreatic emulsion, because it aims at remedying the disorder, not by artificially complementing the defective secretion, but by stimulating the glands to renew their healthy action. Instead of throwing into the system a substance which may be yet formed in physiological quantities, it endeavors to promote the normal flow of pancreatic juice.

The drug which gives us this power is *Ether*, and I now propose to lay before the meeting the evidence of its physiological action, and afterwards to speak of its therapeutical effects. I had long sought, and sought in vain, for some means of acting on the pancreas in the treatment of phthisis, till one day, two or three years ago, when reading CLAUDE BERNARD's elaborate investigations on the properties of pancreatic juice, I found the long looked for clue; stated, indeed, so simply, and brought out in successive observations and experiments so clearly, that it has ever since been a matter of surprise to me that no previous reader should have seen the importance of the facts to practical medicine. . . . .

Having quoted the evidence of this action of ether from BERNARD's works, the author continues :

If necessary, I might multiply these extracts still more, but enough has, I think, already been quoted from the works of our first experimental physiologist to teach us the physiological action of ether. This action is twofold: (1) it stimulates the pancreas and glands of duodenum to pour out their secretions freely, and (2), at the same time, it facilitates the absorption of those very substances which these secretions are destined to digest. In other words, ether not only obtains for us the secretions required to digest fat, but promotes the absorption of these fats when digested. Can any physiological action be more clear, or any experimental proof be more satisfactory for the end we have in view?

I now come to the second part of my task; namely, the therapeutical application of the foregoing facts. Having found, as I considered, suffi-

cient evidence of the special action of ether on the pancreas, I determined to test the value of the discovery by administering ether in all cases characterized by inability to digest fat. In the out-patient departments of our hospitals many such cases occur, which are generally classed as dyspepsia. Many cases of neuralgia are also to be met with in which a most decided improvement follows the increased power of absorbing fatty food. To both classes of patients I gave ether sometimes in connection with cod-liver oil, sometimes alone before meals. The results were most satisfactory; the oil was digested more easily, and the nutrition of the patients greatly improved. Of these cases I shall speak more fully on a future occasion. I next ordered ether in mixture to all my phthical patients at the General Dispensary, selecting the Dispensary for my investigations, rather than the Queen's Hospital, because all the patients were out-patients, and consequently exposed to no new and favorable conditions while the experiment was being tried. The patients being also of a somewhat better class than those attending the hospital, were not, as is often the case in our large towns, struggling to combat a mortal disease while suffering from the effects of disease's chief ally—improper and insufficient food. For some months I pursued the treatment, seeing a very large number of consumptive cases, to all of whom ether either alone or in conjunction with cod-liver oil was administered; and the good effects were so decided, that I determined to investigate the subject more methodically, and to keep a careful record of each case. The good results observed in this preliminary inquiry were a return of the power of taking oil and fatty food, which had been previously distasteful or had even excited sickness: increased appetite, improved general nutrition and increase of weight, diminution of cough and expectoration, and cessation of night sweats. The general impression produced in my mind was so favorable, that I began my more exact inquiries with much confidence. In my first cases, the ether had been given in water with hydrocyanic acid and bicarbonate of potash, twenty-minim doses of ether to each ounce of the mixture. The ether was afterwards added to cod-liver oil, the *æther purus* of the *Pharmacopœia* being used, and about ten minims (9.259 m.) added to every two drachms of oil at first, afterwards fifteen and twenty minims were occasionally given in the same quantity of oil. In some cases the ether was administered in water alone, and taken a short time before the oil. The effects were similar in all cases; but for convenience sake, and on account of its power of masking the unpleasant properties of the oil, I now, generally, give ether mixed with cod-liver oil, in the proportions mentioned. In my second and systematic inquiry, I treated fifty cases taken as they presented themselves at the Dispensary, each patient being carefully examined on admission and at least once every fifteen days during treatment. A brief record was kept of the progress of each case; but, from former experience, I determined in this inquiry not to accept the statements of the patients themselves as evidence of improvement, but only to consider those patients better in whom the result of a physical exploration of the chest, in addition to *decided increase* in weight, confirmed the statements made. I therefore weighed

every patient once a week. As it would be impossible to give a record of each case in a communication such as the present, I must confine myself to a brief statement of the results obtained in the fifty cases.

Sixteen were admitted in the first stage of the disease; nineteen in the second stage; and fifteen in the third stage.

Of the sixteen in the first stage (or stage of deposition), seven improved in general symptoms and in physical signs, gaining on an average over 7 1-2 lbs. each; five remained stationary, all gaining weight slightly; and only four became worse.

Of the nineteen cases in the second stage, six improved in all respects, gaining, on an average, about 8 lbs. each, two cases gaining 14 1-2 lbs. and 10 lbs. respectively; six remained stationary; and seven became worse.

Of the fifteen cases in the third stage, seven improved, gaining, on an average, about 6 lbs each; five remained stationary; and three became worse.

Of the total fifty cases, twenty improved, sixteen remained stationary, and fourteen became worse.

Six of the cases treated, in no instance for a less time than three months, and observed over a period of many months, retained their weight; were troubled by no symptoms, and maintained the improvement in their physical signs. Only one of these was observed over a less period than fifteen months, three over two years, and two over eighteen months. These cases may be considered, I think, as examples of the arrest of the disease, for the patients have returned to their ordinary avocations, and are able to earn their livelihood untroubled by their former disease. The only other remedies used in those cases were croton ointment, as a counter-irritant. Dover's powder occasionally to relieve the cough, and, in a few cases, a little linctus morphiae. But, as cod-liver oil was administered as well as ether, the objection may very naturally be made that the improvement was due to the use of the oil. For my own part this objection has not much value, for I had long used oil largely without obtaining any results at all equal to those stated. In order, however, to meet this objection, the ether was stopped in ten instances and the oil continued; six times there was a fall in weight during the following three weeks. In one case the patient, who had taken ether for some two months, continued to gain weight. In the three other cases the gain ceased, but was again observed in these patients, as it was in all, when ether was again administered.

These results are not only instructive, as showing the effect of ether in increasing weight, but also as showing that the digestion of fatty food is restored to its normal state, in many cases, after a long course of ether. In the cases which have done best under treatment, that is, the cases which I think we may consider instances of arrested phthisis, the power of taking fats, which was at one time much impaired, has returned, and the gain in weight has been maintained over a period of many months. I may here also add that, in all the fifty cases there had been marked wasting before my treatment was adopted, in at least half the cases, cod-

liver oil notwithstanding. Many of my patients have over and over again expressed their preference for the etherised oil; and many who have been unable to retain ordinary oil when taken, have been able to use etherised oil, not only without disagreeable symptoms, but almost with pleasure: "to drink it from the bottle," as some have expressed it. In advocating a new method of treatment, it is most satisfactory to be able to appeal to confirmatory evidence. It gives me great pleasure, in the present instance, to be able to call as a witness, in behalf of my views, the Secretary of this Section, Dr. E. L. Fox, to whom I mentioned the advantage of prescribing ether in phthisis in April, 1867. I had the benefit of discussing the subject with Dr. Fox at that time; and he has since been so good as to send me the results which he obtained. In the early part of this year, he wrote me as follows: "I fear I have kept no precise records of the oil and ether question; but since you mentioned it to me, I have used it very fairly. I give it in two sets of cases: 1, those who are tired of taking cod-liver oil; and, 2, those who have been taking it without gaining weight. In the first case, I find it useful, as the ether, half an hour after the oil, seems to settle the stomach; and, I believe, induces the digestion of the oil. The nausea felt by so many patients is, I think, merely evidence of the oil not being digested. In one hospital case, the man took oil for fourteen days without any benefit, indeed, lost flesh. I continued the same dose of oil, and added the ether, and he began to gain three pounds a week, and went on at the same ratio as long as he was in the wards. I think I have given it to about thirty patients since our talk in April, mostly in private patients of chronic phthisis, and in one case of great debility, in which I believed the pancreatic secretion was too little. In this case, the young lady had a great horror of all fat things, but took the oil with ether after it fairly well, and gained on it. It seems a plan generally liked by patients, and I am convinced of its utility." Such is the testimony of Dr. Fox, and I need hardly say how gratified I am to have the support of so able an observer. I might quote the testimony of others who have used the ether at my suggestion, were it necessary.

## 12. *Therapeutical Use of Arsenic in Phthisis.*

[*London Lancet*, Feb., 1867.]

The question of the therapeutical use of arsenic in phthisis is of much practical interest. It has been the subject of an able report by M. HÉRARD, of the Academy of Medicine of Paris, in connection with a previous communication from M. MOUTARD-MARTIN, one of the nosocomial physicians of Paris, and an accomplished clinical observer, has studied with great care and in a severely experimental manner the physiological and therapeutical action of arsenic in phthisis. Two points of his researches have been to experimentalise with the remedy upon both private and hospital patients, and to exclude every other medicament from the treatment, so as better to distinguish the effects of the one under trial. According to M. HÉRARD, favorable effects are observed in the

vast majority of cases. In the course of a few days only the patient revives, the eye shows new life, the complexion is better, the appetite is restored, and the patient even gains flesh. This beneficial action of arsenic is, however, observed in only one class of phthisical sufferers—those whose digestive organs have not undergone much impairment. In cases in which there is much impairment of the digestive functions, and in which vomiting and diarrhœa are already present, the remedy, far from doing any good, often increases this condition of the patient. This leads us to infer that arsenic exercises no local or direct action in phthisis, and that its good effects are merely due to its influence upon the functions of nutrition. M. HÉRARD, however, is inclined to believe that some direct action is exerted upon the mucous membrane of the lungs, which serves to eliminate the remedy; and, in conjunction therewith, he refers to the peasants of Lower Austria, of Styria, and of the Tyrol, who frequently make use of arsenic because it enables them to breathe much more freely when climbing up their mountains. With regard to the action of arsenic upon the functions of nutrition, M. HÉRARD thinks it is twofold: not only does it increase the appetite, either by a direct stimulating influence on the mucous membrane of the alimentary canal, or by its general tonic and fortifying action, which the digestive organs would be the first to feel; but it exercises another and most important influence, which consists in moderating the oxidation of tissues, and in thus impeding the process of denutrition, as has been shown by the experiments of BRETTSCHEIDER, SCHMIDT, and STURWAGE, and, still more recently, of M. LOLLLOT, house-surgeon to the Paris hospitals. This latter investigator has observed that the administration of arsenic acid in doses of ten milligrammes daily causes a lowering of the heat of the body, and a marked diminution in the quantity of urea. The form in which arsenic is administered, preferably to all others, by MM. MOUTARD-MARTIN and HÉRARD is the arsenious acid prescribed in the shape of pills or granules, each containing one milligramme of the substance. Seven or eight of the granules are administered at first; but the dose may be speedily carried to ten or fifteen milligrammes, very seldom to two centigrammes. M. HÉRARD asserts that with this precaution of dividing the daily dose, of never giving more than two milligrammes at a time, and, of administering the granules as often as possible immediately before the meals, no accident is ever seen to occur. It is very seldom that the treatment is suspended or modified through temporary sickness, vomiting, or diarrhœa. When the granules cannot be administered, an arsenical solution may be employed in small and increasing doses: and recourse may be had to arsenicated mineral baths, such as Bourboule, the Mont-Doré, etc. Whatever the form in which the remedy is exhibited, M. HÉRARD insists upon the necessity of suspending the treatment from time to time. In conclusion, M. HÉRARD is confident that M. MOUTARD-MARTIN's researches have had the result of establishing the perfect innocuousness of arsenic when properly employed, and its undeniable efficacy in certain forms of tubercular phthisis.



13. *Treatment of Valvular Disease of the left side of the Heart by Inhalation.* Dr. C. GERHARDT.

[*Practitioner*, Feb. 1869; from *Deutsch. Archiv f. klin. Med.*]

Dr. C. GERHARDT believes that he has arrived at valuable results by experimentation on inhalation of chemical solutions in the treatment of valvular diseases. He employs an aqueous solution of bicarbonate of soda. 1-2 to 1 1-2 per cent. in strength; the patient inhales this for a quarter of an hour at a time, three or four times daily. He has tried this plan with fifteen patients: seven of these were the subjects of old heart disease; in one of them no improvement whatever was effected, the malady running on without a check to a fatal issue. Another was only temporarily improved; the remaining five were notably improved, and left the hospital with a distinctly altered condition of the diseased valves; one of these had been a very bad case, an old man, who was œdematous, and suffered from severe orthopnœa. The remaining eight cases were of recent endocarditis; in three of these GERHARDT believes that the medicine obtained a direct and *complete* cure. In three others there was great improvement. The remaining two were cases of mitral disease, in which the subjective symptoms were alleviated. GERHARDT thought the results of the treatment so favorable as to warrant experiments with other inhaled remedies—viz., nitrate of potash, and chloride of iron; but the result of a few trials did not encourage him to proceed.

14. *The Prognosis of Albuminuria.* Dr. DUMONT-PALLIER.

[*Boston Med. & Surg. Journal*, March 11, 1869; from *Union médicale.*]

M. DUMONT-PALLIER has been the medical adviser, for some years, of a young man, of gouty habits, whose general condition, says Dr. D., is so satisfactory that he would never be suspected of having albuminuria, but in whom the urine contains albumen. On the basis of this case, M. D. claims that there is such a thing as a chronic albuminuria of long standing, which is not necessarily the expression of a grave deviation from health. The reporter adds that RAYER, who had given much attention to the disease, and also TROUSSEAU, with his vast clinical experience, had both said to him, in their later years, that much investigation was still requisite to complete the prognosis of albuminuria.

15. *The Treatment of Psoriasis.* By Mr. BALMANNO SQUIRE.

[*Practitioner*, Nov. 1868; from *Med. Times & Gaz.*, Oct 17.]

In a communication on this subject, Mr. BALMANNO SQUIRE alleges that creasote has never been fairly tried against psoriasis, and that, therefore, it has not enjoyed the reputation it deserves. Mr. SQUIRE, having employed various tar preparations with insufficient results, was induced to make a systematic trial of creasote. His employment of the officinal

ointments was attended with little good. By a long series of experiments he at last was led to conclude that an ointment composed of two parts of creasote and one of white wax was the best application. This new preparation possesses great efficacy, and is a more elegant compound than the ung. picis liquid. He also found, what seems a paradox, that pure creasote is not—therapeutically—so strong an application as the ointment referred to, and that the diseased skin is less sensitive to the irritating effects of creasote than the healthy skin. Mr. SQUIRE states that he has tested his opinion by more than 100 cases, and has seen no reason to alter it. He gives this caution to those about to use creasote:—"In persons of lymphatic habit the strength of the ointment described is too great. In such case an ointment in which the creasote is about one-half of the whole volume is the best. For all other cases the maximum ointment will be found most suitable."

16. *Treatment of Eczema by Waterproof Bandaging.* Dr. SCHMIEDEL.

[*Practitioner*, Dec. 1868; from *Centralblatt f. d. med. Wiss.*, 41, 1868.]

Dr. SCHMIEDEL has followed up Hebra's researches, and now reports the great success of a treatment in which the eczematous part is covered with bandages of linen, waterproofed with vulcanized india-rubber. Partly by compression, partly by exclusion of air, and partly by maintaining a constant perspiration of the part, this proceeding proves eminently successful. It has also the great convenience of allowing the patient to go about his ordinary occupation without difficulty. The author is not prepared to give an opinion whether the *sulphur* in the vulcanized india-rubber does or does not take any part in the cure.

17. *On the Treatment of Acute Rheumatism with Bromide of Ammonium.* By Dr. J. M. DA COSTA.

[*Pennsylvania Hospital Reports*, Vol. II. Philadelphia: 1869.]

Dr. DA COSTA presents favorable results obtained in quite a number of cases of acute rheumatism from the use of bromide of ammonium, "given in 15—20 grain doses every third hour, well diluted, and omitted at night." The patient "was found to rest better, have his pains eased, while his digestion was not interfered with. The duration, too, was not a long one." As a rule, the convalescence was rapid, the pulse was rendered decidedly slower, and often also lost in force. The bromide appeared to promote perspiration. The action of the remedy on the temperature was not definitely made out, but "it is not uncommon to observe a reduction in temperature of several degrees after 36 to 48 hours

of treatment with bromide of ammonium." "On the pain, the influence is very striking. Not only is the local distress often stated to be ameliorated, but the general uneasiness and restlessness are decidedly benefited." No gastric symptoms; no constipation; in a few cases slight diarrhoea. The urine remains acid, is generally of high specific gravity, the urates and chlorides copious, the phosphates very variable; the quantity of urine usually decidedly increased. What is most remarkable in this analysis of cases is that "not a single one had endocarditis originating under treatment; in not a single one was it met with . . . . . in which it had not existed at the admission of the patient into the Hospital. And in not a case did signs of cardiac trouble exist at the end, unless they had been present in a marked manner at the outset."

18. *On the Treatment of Diabetes.* By F. W. PAVY, M.D., F.R.S., and WILLIAM R. BASHAM, M.D., F.R.C.P., London.

[*Brit. Med. Journal*, Jan. 9, April 10, May 1, 1869.]

Dr. PAVY reported to the Clinical Society of London a case of diabetes mellitus successfully treated by opium, without restriction of diet.

A female, aged 68, was admitted under his care into Guy's Hospital, on May 26th, 1868. Her complaint had been recognized two years, and at one time she had been passing an exceedingly large quantity of urine, and had been gradually losing flesh and strength. Upon admission into the hospital, the quantity of urine was about five pints a day, and was highly charged with sugar. She was placed upon the ordinary middle diet of the hospital, which included bread, potatoes, and beer. She was also ordered four ounces of brandy, and two bottles of soda-water daily. This diet was continued as long as she remained in the hospital. Upon the day of admission, a draught was ordered, consisting of ten grains of bicarbonate of potash, half a drachm of aromatic spirit of ammonia, and an ounce of infusion of calumba; to be taken three times a day. This draught was, by misunderstanding, continued throughout the patient's stay in hospital. Opium was given in the form of a pill, three times a day, and the dose was gradually increased. A daily examination of the urine was made; and the results were copied into tables. At first, the quantity of urine was 100 ounces, the specific gravity 1040, the quantity of sugar per ounce thirty-two and three-quarters grains, and the quantity of sugar for the twenty-four hours, 3275 grains. The first effect of the opium was to diminish notably the amount of urine. The degree of saturation with sugar remained for a time about the same, but through the fall in the amount of urine, the quantity of sugar for the twenty-four hours was diminished. Within three weeks, the quantity of opium ad-

ministered was raised to ten and a half grains daily. It was then suddenly discontinued on account of a greater degree of drowsiness than was desirable being produced; but, in a few days, was re-commenced, and this time, being more gradually increased, was borne without producing any disturbance. On July 28th, the quantity of urine was twenty-five ounces daily, the specific gravity 1027, and no sugar was passed. On the three subsequent days there was a little sugar, but it afterwards disappeared, and remained absent as long as she continued in the hospital, viz., until October 28th. When the sugar disappeared, the patient was taking nine grains of opium daily. It was afterwards further increased to twelve grains, and then gradually diminished until October 17th, when all was taken off, the patient during the remaining time taking no medicine, and passing no sugar. The last daily record was forty ounces of urine in the twenty-four hours; specific gravity, 1025; and no sugar. With the improvement in the state of the urine there was a corresponding improvement in the health and strength of the patient, who ultimately expressed herself as feeling perfectly well in every respect. Upon being discharged, she lived precisely as she was in the habit of doing before she became affected, and had come to the hospital several times; the urine being, on each occasion, found devoid of sugar.

Dr. PAVY had given opium and morphia in other cases; and the results strikingly exemplified the controlling influence of the drug over the disease. There was still much to be learnt about its extent of power in different cases. He believes that in many instances, amongst elderly subjects, opium is sufficient to check by itself the elimination of sugar; in young and middle aged subjects, however, the restricted diet must be conjoined.

Referring to this case, Dr. BASHAM, Physician to Westminster Hospital, communicates "Observations on the successful treatment of diabetes by alkalies and the phosphatic salts of ammonia, with limited restriction of diet." It is not his intention to comment on Dr. PAVY's case,

further than to remark that it is unfortunate for the claim of opium as a curative agent, that, by an oversight, the patient, during the whole period of treatment, continued to take alkaline remedies—carbonate of potash and the aromatic spirits of ammonia. For it was through the agency of such remedies that, in the cases about to be recounted, the mitigation of the symptoms, and indeed the disappearance of the sugar, appeared to take place. Opium in no form was given; and the restriction in diet was only carried out to a limited degree.

A gentleman, seventy years of age, a merchant of the city of London, of a stout and plethoric habit, of ruddy, not unhealthy aspect, consulted me first in the early part of the winter of 1867-68. He had been subject more or less through life to rheumatic, or perhaps gouty, symptoms, of which lumbago was a prominent symptom. From time to time the skin had been the seat of scaly eruptions (psoriasis), so intimately connected

with the uric acid diathesis. Of late, a diffuse chronic eczema had appeared on the inner part of the thighs, perinæum, and buttocks. Constipation and piles may be added, as well as some structural condition of the sphincter ani, for which he had consulted the late Mr. Salmon, as the chief characteristics of his past history. The leading symptoms, when first under observation, were, an excess of urine, eighteen to twenty pints in the twenty-four hours, of specific gravity 1035, containing seventeen grains of sugar to the ounce. Micturition was distressingly frequent during the day, less by night. There were thirst, and a dry, furred tongue; but many of the ordinary and typical symptoms of diabetes were either absent or existed only in a minor degree. There was no wasting, nor loss of weight; no craving appetite; no odour in the breath; no preputial irritation; nor any of that nervous irritability present in some cases. The pulse was soft and equable. The heart's sounds were feeble and remote, as is usual in stout people of advanced years. The bowels were torpid, a condition habitual to him. A scheme of diet was written out; the phosphate of soda, in half-ounce doses, recommended as a purgative; and the carbonate of ammonia with the bicarbonate of potash, in effervescence, with fresh lemon-juice, prescribed three times a day. This treatment was continued for some weeks, with varying results as to the proportion of sugar present. At the end of two months, it had decreased to twelve grains to the ounce; by the end of the year, under the same treatment, to six grains. Up to this period, I have reason to think that only a moderate degree of restriction in diet was observed, chiefly in abstinence from wheaten bread and potatoes. The Pullna water for a time aided the action of the phosphate of soda as a laxative. During the months of February, March, and April of last year, the average specific gravity of the urine was 1036, and the mean average of sugar eight grains to the ounce. The treatment was continued uninterruptedly. During May a notable increase in the proportion of uric acid became apparent, without any diminution in the proportion of sugar. As the summer advanced and the heat increased, the specific gravity rose to an average of 1040, with considerable increase in the sugar, which rose on several occasions to twenty grains to the ounce. The heat very much oppressed him. In September, the following form was substituted for the carbonate of ammonia and potash in lemon-juice: Phosphate of ammonia and carbonate of ammonia, each ten grains; and aromatic spirit of ammonia, half a drachm; in an ounce of water, added to the juice of a fresh lemon, and taken three times a day. This remedy was continued without intermission for the following four months, and with the most favorable results.

	Mean sp. gr.	Sugar per oz.
September (began the phosphatic salts)	1037	18 grs.
October	1040	18 grs.
November (great increase of urates)	1036	6 grs.
December 4th (large proportion of urea and urates)	1018	½ gr.
December 28th (urea and urates in excess; a large crop of crystals of oxalate of lime after cooling)	1024	Nil.
January 26th, 1869 (same as above as regards the urea, urates, and oxalate of lime)	1026	Nil.

I am reluctant to swell this communication beyond reasonable limits; but I cannot forbear to add that this principle of treatment by alkalies, especially by ammonia and its phosphatic salt, has been successfully em-

pplied by so many physicians and writers on diabetes, as to justify our placing the greatest confidence in its utility. The success apparent in one case would not justify the inference I have drawn from the employment of this class of remedies; but the invariable mitigation of the symptoms even in the most unpromising cases, and its more complete success in others, warrant the conclusion at which I have arrived.

To this communication Dr. PAVY replies in a subsequent number of the same Journal, as follows:

I know of no medical agent that is capable of exerting a controlling influence over the complaint like that exerted by opium. In common with others, I have employed alkalies and ammonia largely in diabetes, and am well familiar with the kind of effect to be looked for. I have been of opinion that they produce a slowly beneficial action in the complaint; but never have I observed any immediate effect of a marked nature that could be attributed solely to their influence. With opium, on the other hand, the effect is so striking, that there can be no question of its reality. In my communication to the Clinical Society, besides the case above alluded to, two others were mentioned, in both of which the sugar was removed—in the one instance by opium, and in the other by morphia. In these cases, there was no other agent administered. They were cases of the disease in middle-aged subjects. The sugar was reduced as far as it could be by a restricted diet; and then, under the influence of the morphia and opium, it was entirely removed.

There is also at the present time a patient at No. 1 bed in John Ward, Guy's Hospital, a most instructive case bearing on the point in question. It is the same patient to whom I administered the ozonic ether without observing any beneficial effect, and whose case, in reference to this agent, I mentioned in the *Lancet* a few weeks ago. The man, a middle-aged person, was passing, under a restricted diet, about six pints of urine, containing upwards of three thousand grains of sugar, in the twenty-four hours. At first, after the ozonic ether had been discontinued, morphia was administered in gradually increasing doses, beginning with half a grain three times a day. The quantity of urine and sugar from day to day declined, and, in the space of about three weeks, disappeared altogether; the quantity of morphia administered at this time being a grain and three-quarters three times a day. After a little while, the morphia was taken off; and in a week's time the sugar began to reappear, and went on from day to day increasing. This state of things was allowed to continue for about a fortnight, when opium was given; and, under its influence, the sugar has again disappeared. I merely here allude to this case; the patient, being still in the hospital, may be seen by any one desirous of doing so.

Of what service as a curative agent, opium, in larger doses than it has been customarily given, may prove in cases in general, I do not at present pretend to say. Much more extended observation is required before this point can be determined. Whatever may happen to be disclosed by subsequent experience, it cannot be denied, I think, that we have before us an important therapeutic fact.

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## Editorial.

### CHLORAL—A NEW ANÆSTHETIC.

BERLIN, June 8th, 1869.

*Editor St. Louis Medical and Surgical Journal:*

Being at present engaged in the chemical laboratory attached to Virchow's Pathological Institute, it is with particular pleasure that I communicate to you an important discovery for which we are indebted to its chief, Dr. LIEBREICH.

Though Dr. L. has laid his discovery before the scientific men of Berlin, in both the Chemical and Medical Societies, nothing has as yet appeared in print, and the hasty account cannot but be exceedingly unsatisfactory, yet I trust it will not be without interest, as being the first which crosses the Atlantic.

The researches of Dr. LIEBREICH have disclosed a new, and to all appearances, most valuable anæsthetic, which bids fair to rank with chloroform and morphine as one of the benefactors of suffering humanity.

Chloral ( $C_2Cl_3OH$ ), the aldehyde of trichloretted acetic acid, has indeed been known to chemists for perhaps the last thirty years, but its valuable medicinal properties have so far been utterly overlooked. It is a colorless fluid, of penetrating odor, but almost without taste, obtained by the action of chlorine gas upon alcohol, and is thus prepared in England on a large scale, being used for the manufacture of chloroform, as solution of caustic soda decomposes it, with production of chloroform and formate of soda ( $\begin{matrix} CCl_3 \\ COH \end{matrix} \} + \begin{matrix} H \\ Na \end{matrix} \} O = CCl_3H + \begin{matrix} COH \\ Na \end{matrix} \} O$ ). Upon this process, the gradual decomposition of the soluble and readily absorbed chloral in the alkaline fluids of the body—this slow production of chloroform,—probably depend its effects upon the system.

We may compare the action of chloral to that of chloroform inhaled in small, continued doses; in some cases a slight headache followed, apparently less than is produced by morphine. Little can, of course, as yet be said from the few cases on record, though it has been given internally with success to patients in different departments of the Charité. A solution of the hydrate

in an equal quantity of water has been used—the largest quantity as yet given being 4 grammes. 4 grammes of the solution contain 2 grammes (32 grains) of the hydrate, and decomposed give 1 1-3 grammes, about 21 grains, of chloroform.

Upon animals the injection has been used with most satisfactory results; drowsiness comes on, and soon perfect stupor. The effect is mild and gradual, not the least sign of a *stadium excitatorium*, so disagreeable in chloroform. This death-like stupor was prolonged, according to the strength of the dose, as far as 18 hours; upon awakening, the animal appears in full possession of his faculties, and at once feeds.

This anaesthetic is applicable, it would appear, in cases of insomnia from general suffering, mental excitement, and even in cases of insanity, where it has already been successfully tested. Though it cannot be expected to supersede either chloroform or morphine, differing from both in its effects; we may confidently predict for it a wide and important field of action, and American physicians will certainly not be behind hand in giving chloral a fair test.

So much, until I shall be enabled to send you Dr. L.'s publication.

Respectfully,

GEO. J. ENGELMANN, Stud. Med.

COMMENTS UPON PROFESSOR WATTERS' CLINICAL  
LECTURE ON INDICATIONS FOR TREATMENT  
IN INFLAMMATION.

ST. LOUIS, May, 1869.\*

To the Editor of the *St. Louis Med. & Sur. Journal*:

The last article of Professor WATTERS, in a recent issue of the *St. Louis Medical and Surgical Journal*, elicited our admiration, as it was one of the clearest and most satisfactory elucidations of the pathology of inflammation that we have ever read. The learned Doctor's opinions are entitled to the most profound consideration and respect, and we are sincere in stating our belief that as an original thinker and medical philosopher he is not surpassed, nay, hardly equaled, by the most illustrious lights of our profession, either at home or abroad. It is to be hoped that we will not be deemed guilty of presumption if we take exception to some of the views which the Doctor entertains, because, no matter what prestige and reputation an author may enjoy, his statements should never carry the weight of conviction or be taken for granted, un-

\* An accident prevented the publication of this letter in the May number of this Journal, for which it was intended.—ED.



less after due reflection and discussion they are proved to be incontrovertible. One of the greatest difficulties with which a *practical* physician has to contend is the great uncertainty of his science, which, as it unfortunately rests upon no positive basis, leaves him often to grope in the doubt and darkness of conflicting theories concerning questions of the most vital importance. This must needs be the case for some time to come, but happily the great pathologists and physiologists of the present day are making rapid and gigantic strides in overcoming these peculiar obstacles of medical science, and have, in many instances, partly succeeded in drawing aside the veil of mystery which has so long enveloped in obscurity points in physiology and pathology the intelligent appreciation of which is essential for a rational therapeutics. Therefore the perfect mastering of the entire labyrinth of perplexing doubts is not to be despaired of in years to come, if science keeps pace with its present efforts.

It follows that from year to year we have much to learn and not a few things to *unlearn*. Unfortunately for many who are eager in the right direction, books do not help much, when they are most in need of advice, seeking that knowledge the exercise of which is so necessary at the sick bed. Science is progressive whilst authors grow old and trite. The heroic remedies of the so-called antiphlogistic treatment, so earnestly and strenuously recommended in all systematic works on medicine, are a most unserviceable, not to say dangerous, staff to lean on; they are worse than useless, nay, even perilous and fatal; the sun of their day has set, and fortunately for humanity will never dawn again. "The epidemic constitution of disease" does not change as some modern writers would have us believe, in order to mantle their previous errors and teachings; but science is ever on the alert, and scientific men necessarily change their views to be consistent with and conform to the never ceasing progress and daily development of chemico-physiological and pathological discoveries. Nothing but an unfortunate habit of conceit, prejudice and obstinacy makes some close their eyes to the lights of progressive science, which they should not fail to see, and seeing, to accept and appreciate. Feeling very decidedly convinced of the truth of some of these recent changes of established pathological laws, I can not resist the desire to enter the lists as a champion of the modern school which, to my mind at least, very clearly proves that inflammation once commenced can not be cut short, and that we have thrown away most valuable time in the discussion of the essence of a process which can be no longer considered a real entity. We will therefore, although we agree with Dr. WATERS in the main, state seriatim, the objections which occurred to our mind whilst studying his last admirable contribution to the literature of the subject. In the Doctor's remarks concerning "the reactionary movement against the old antiphlogistic system just alluded to," he says farther on that "the old system is depletory, but, like tides, the reactionary movement is running to an opposite extreme, and may be called the '*stuffing treatment*.' One might almost think that it is now supposed that 'vital power' is in some mysterious way stored up in beef tea and whisky;" again: "Beef tea and whisky are often indicated no

doubt, but that, as with everything else, depends upon the particular conditions, *abstractedly*; they no more contain vital power than does water or air." We must here protest against the dignified appellation of "stuffing" being applied to a course which in hands not rash, but judicious, is the means with which not only the flickering flames of life are oftentimes sustained, but through which the most violent inflammations are enabled to reach a favorable termination. We are fully aware that a man can be killed by beef tea as readily almost as he can be drowned with water, and although we do not claim that beef tea contains, "*abstractedly*," any vital power, yet we do positively assert, with proper qualifications, that *beef tea assimilated becomes blood, and blood is necessary for the performance of the functions or manifestations of human life*, and that the resolution of all inflammations is through an increased afflux of healthy blood to the inflamed parts. We entirely reject the old vascular theory of inflammation, believing as we do, that hyperæmia is always a consequence, and *never* a cause of inflammation. In an inflamed pleura, lung, brain or liver, we can only hope to cure the disease by *not* interfering with the very congestions which by an inevitable *vis a fronte* are produced in the parts and which, in former days, practitioners sought to prevent. They did not recognize the fact that the debris and consequences of inflammatory action—the result of a primary irritation in the tissues themselves—could only be gotten rid of by the increased attraction of the vital fluid loaded with nutritive juices to the inflammatory nidus. The increased flow of blood, or congestion, thereby furnishes the material for all the nutritive and formative processes of which inflammation is a lesion, and which must inevitably follow *pari passu* all tissue metamorphosis; otherwise the destructive changes will be so great that the parts will perish, and gangrene will result. Therefore, to afford the nutritive lesion ample compensation and permit the debris to be liquified, broken down, absorbed and excreted, hyperæmia is a *sine qua non* of healthy resolution. It naturally follows that this resolution can only take place through a liberal supply of rich arterial blood, which in turn must be kept up to its proper standard by due attention to the functions of nutrition. Beef tea, in consequence of the facility with which it is digested and its adaptability in acute disease, is a most important element where tissue metamorphosis is actively occurring. It may be called the "*pabulum vitæ*," without which many valuable lives would be lost, yet, "*abstractedly*," it contains no more "vital force" than do venesection, calomel and tartar emetic "*abstractedly*" contain lethal properties; yet that the latter lead but to the grave, is, now, a well established doctrine. Were beef tea to enjoy some high sounding scientific name and kept bottled up in graceful phials with emblazoned labels on the pharmacist's shelf, doubtless it might be prescribed less reluctantly, and there would be fewer qualms of conscience in omitting the inevitable and deadly effects of venesection, hydrargyri chloridum mite, and antimonii et potassæ tartaras, which so often lull the physician into a dangerous security and honest belief that he is *actively* combating the inflammation, whilst, in reality, with each dose he is only placing an additional nail in

his confiding patient's coffin. Even were it possible for us to admit the efficacy of the antiphlogistic treatment, we would find great cause for regret in its indiscriminate application. We are so often as routinists inclined to treat a given disease with standard remedies, as a matter of course, and without due consideration of their *modus operandi*, and independently of the conditions of the *primae viae*, which are compelled to receive and absorb them. In this regard Dr. CHAMBERS justly remarks: "Whatever value we may attach to the evidence of the dependence of disease on the digestive organs, it is very clear we look to them for relief from these diseases. Out of the six or seven hundred forms of medicine in habitual use, very few indeed are not occasionally offered to the stomach for acceptance, and an overwhelming majority of them are adapted for use only in this way. If we still are to employ this time-honored agency in our attempts to cure bodily ailments (and I see no threatening of a change at present), it is surely a matter of great interest to secure the active working condition of the stomach. It is waste toil to try and enter locked doors. . . . The evil of neglecting them is obstinate disobedience of the disease, or rather of the body of the patient, to any medicine administered." Yet how seldom, may I ask, do physicians, in prescribing for the inflammatory diseases, worry themselves about the condition of the digestive functions, but do they not blindly, in many instances, administer their habitual antiphlogistic remedies as a *sine qua non* of medical treatment? Is not the rational administration of beef tea or any other proper nutriment the only method which enables nature, not the physician (as mortifying to our conceit as the admission must be), to arrest and cure the inflammation, which is nought but a *lesion of nutrition*, or in other words, as so happily expressed by Dr. WATERS, "a disturbance of the relations between the demand and the supply;" and can we reasonably hope for any beneficial result, unless attention to nutrition is paramount to all other considerations for the relief of the patient? Is this prevention of or compensation for excessive destructive change, by which means the candle is prevented from burning out, to be called an unscientific "*stuffing*" treatment? We will admit beyond all cavil that "where, when, and how to act vigorously, and when, where, and how to vigorously *not* act, are the questions of moment" to us as practitioners, but we must confess that in the present state of medical science the problem is a most intricate one, and does not admit of easy solution. It is easy for us to believe with the author that "the dependence of inflammation upon chemical action—upon oxydation . . . does not characterize it or distinguish it from health." . . . . . "Neither does the *rapidity* of chemical action, abstractedly considered, characterize inflammation." . . . . . We will go a step farther, and affirm our belief that the oxydation of tissue, be it increased or not, bears the same relation to inflammation as the attendant hyperæmia, namely: the relation of *effect* to cause. Cellular or molecular irritation being the *cause*, oxydation producing tissue metamorphosis, or destructive changes, and hyperæmia, with all its consequences, are the *effects* of inflammation and are not to be mistaken for its essence. VIRCHOW beautifully illustrates

that hyperæmia is never purely active, but is always necessarily *passive*. So it may be stated that no oxydation dependent upon inflammatory causes, is ever the active or primary cause of the inflammation, but is always the passive result of an external tissue irritation, which latter is the *fons origo* of the whole disturbance. BENNETT appropriately describes and defines inflammation as "a modification of the power whereby the *attractive* property is augmented and the *selective* one diminished." Hence there is in the tissues themselves, or their ultimate cellular constituents, an *irritation* which is entirely outside of the blood-vessels, or the blood itself, and the consequent hyperæmia is the result of a *vis a fronte* and never of a *vis a tergo* as was formerly supposed. In consequence of this *irritation* nutritive changes or "cloudy swelling" occur, whilst hyperæmia and the destructive and formative metamorphosis are but so many expressions of this one common cause: *irritation*. It naturally follows that in *all* cases, *sthenic* and *asthenic*, the nutritive juices freely flow to the inflamed parts, the tissues themselves will be more rapidly oxydized; and in proportion as the supply corresponds with or is able to meet the demand, will the result be happy or unfortunate. If the destructive changes are rapid and not followed by adequate formative or nutritive changes, the intensity and dangers of the inflammatory action will increase *pari passu*. The Doctor states that "If the disharmony is in consequence of excessive destructive change, the conditions of supply being normal, then we may with propriety use depletory remedies to diminish the excessive chemical change or destructive metamorphosis." Now, I would ask the Doctor, in the first place, how are we always to make this nice discrimination to our satisfaction? Then, again, supposing we *can* succeed in making the distinction, how will it be possible, for instance, in a parenchymatous inflammation, by any known agents to control an excessive and destructive tissue metamorphosis, the cause or primary irritation of which resides in the molecular elements of the tissues, and are entirely out of our reach? Might not a judicious "stuffing" treatment, by favoring the nutritive processes, finally more than balance the disturbed equilibrium and end by restraining the excessive chemical waste? Will depletory treatment prevent the increased afflux to the parts of blood which irresistibly obeys the *vis a fronte*, as long as it exists and which can not so easily be dislodged, unless we can send our means of arrestation into the *molecules of the tissues themselves, compelling them*, as it were, to be lulled into composure and a passive condition by a withdrawal of the irritation which goads them on to the expression of their disturbance, which is inflammation?

"Blood-letting is one means of regulating the action of oxygen, and in *some* cases is demanded," etc. Blood-letting, we believe, is *never* a curative agent in inflammation, and under no circumstances except, *perhaps*, as a MECHANICAL relief for congestions, or as a palliative to relieve pain by reducing arterial tension, should it be practiced. Whilst we all know that the red corpuscles are the "oxygen carriers" of the system, yet we do not understand how "the *immediate* effect of blood-letting in diminishing the red corpuscles rather than nutrition and the plasticity of

the blood," influences the course of the inflammation, because as long as *any* are left in the circulation, the irritation in the inflammatory nidus will still go on attracting them, no matter whether the circulation contains seventeen pounds of blood or only one pound (provided, of course, such a contingency were possible). Yet just as long as *any blood* circulates and *any irritation* continues, just so long will the increased oxydation (relatively speaking) continue as a result of the inflammatory irritation. Another disadvantage of such treatment is that when the reparative processes should commence, resolution can not occur because the circulating fluid has been so deteriorated, impoverished and depraved, that healthy formative and nutritive action is almost an impossibility. It is useless to examine into the question of the influence exerted upon the blood's fibrine by venesection, as now-a-days, exudative phenomena are losing much of their significance from the advances of a more enlightened pathology. Those who still cling to the plastic exudation theory, and have not relinquished the antiphlogistic practice, must find it difficult to reconcile their consciences with the discoveries of BECQUEREL and RODIER, who have experimentally ascertained that whilst venesection considerably diminishes the red particles, that it very much augments the proportion of water, and that it affects but little or not at all the fibrine; thus producing "a thinner liquor sanguinis," holding in solution the same, or nearly the same amount of fibrine. Hence a most favorable condition of the liquor sanguinis is obtained for transudation, and therefore a state of affairs very conducive to plastic formations. But the analyses of DR. CHRISTISON show an *increase* of fibrine under bleeding; and those of DR. BEALE show the same fact to a remarkable extent, in the blood of a dog bled on four successive days to the extent of six ounces each day."

But, says DR. WATTERS, "as blood-letting does also remove from the circulation the nutritive juices, it is indicated and admissible only under certain conditions." This is exactly what we wish to draw attention to, and the dangers of the practice are to a great extent founded upon this admission of the Doctor's. Even were it possible to conceive some slight benefit to be derived from the abstraction of blood, the gain would not more than compensate for the lamentable disadvantages which would accrue from the loss of the nutritive juices that in all lesions of nutrition, or so-called inflammations, should invariably be in excess in order to supply the demand of the reparative processes. A distinguished and most eminent practitioner, in consultation, seriously spoke to us not long since, of the advantages of blood-letting as a means of depuration of the circulation to divest the blood of its excessive venosity or highly carbonized condition, the result of a severe attack of capillary bronchitis; the expedient would doubtless have been of service could it have separated and abstracted only the effete and poisoned portions of the blood, without producing the gradual loss of its normal constituents in this very depressing disease. Under such circumstances, how easily we could cure our typhoid cases, were we always able by a sort of selective affinity to separate the normal from the poisoned portions of the blood, and

whilst withdrawing the latter, leave the former undisturbed! We think the burthen of the proof is with DR. WATTERS to describe how blood-letting can be of service. "when by arresting its progress (of inflammation) and diminishing the irritation, less nutrition will be necessary." To remove the *irritation* is the only rational method of cutting short inflammation, we are convinced, but how it is always to be done in parenchymatous inflammations we are at a loss to comprehend, the vital processes depending upon the *irritation* which is not seated in the blood or the blood-vessels, but in the tissues outside of the vessels—*ubi irritatio ibi fluxus est*. But continues the Doctor, "when in a constitution otherwise healthy the disease is due to excessive destructive change, to *arrest its progress* free blood-letting is urgently demanded in the early stages, before the arrest of circulation in the capillaries; after this, I believe it is never admissible, and often seriously injurious. This belief is based upon the opinion that it could not then lessen the irritation, but it would lessen the nutritive juices by which alone the healing or repair can be effected." We would here earnestly inquire as to the *practical* point of ascertaining how it is possible in the case above alluded to, invariably to determine *the exact period at which "the arrest of circulation in the capillaries" occurs*. The last part of his statement, we hold, always and without exception applies to the treatment of inflammations in all their forms, namely, that the healing or repair can be effected alone by the nutritive juices, and therefore the axiom should be, NEVER "lessen the nutritive juices by which alone the healing or repair can be effected." Hence beef-tea or other judicious nourishment may not, "*abstractedly*," but positively be a vitalizing agent, and is to be placed at the head of the list of Haematopoetica, which in turn should be considered of some importance, not to say of the greatest utility, in the treatment of inflammations. Most aptly does the Doctor farther on declare that "after the income is cut off *whatever is wasted or spent uselessly at any time* is just so much taken from the capital, and so much diminishes the chance of successfully passing the approaching crisis."

He might have more correctly added that *any waste, at any stage*, or in any form of inflammation, unnecessarily and unwisely exposes to the dangers of complete bankruptcy, with no bankrupt law at the victim's disposal of which to avail himself.

We have so far purposely refrained from any allusion to alcohol. The antagonists of these views are so apt to confound the TODD and BENNETT plans of treatment, that we have determined to insist upon their separation. Although an enthusiastic admirer of the late lamented Dr. TODD, yet we are not altogether disciples of his school, as ultra stimulation was unquestionably his hobby. The constructive system of Dr. CHAMBERS, and the rational and nutritive methods of Dr. BENNETT have more influence over our practice. That alcohol will reduce the pulse when given in proper doses and in appropriate cases, we have no reason to doubt, but the reckless use of stimulants is greatly to be deplored, especially as the tendency of practitioners to drift in this channel seems to be daily on the increase. Yet doubtlessly the action of alcohol, when bene-

ficial effects follow its administration, is most probably due to the fact that the increased oxydation caused by the inflaming irritation spends itself to a great extent upon the hydro-carbon of the alcohol, thereby sparing the tissues and passing off as water and carbonic acid. That it contributes toward nutrition and is really a food, the experiments of Dr. ANSTIE have established beyond a doubt. It passes off considerably in the urine only when given to excess, or in cases where it is not indicated; under all other circumstances it is assimilated, and from the inorganic passes to the organic forms of the tissues, and may be desirable in some cases as a remedy "to lessen the susceptibility of the tissues to the action of oxygen" and exert a stimulating effect upon the failing power of the heart.

J. KEATING BAUDUY, M.D.

### MEDICAL BIBLIOGRAPHY.

MESSRS. WOOD & CO., N. Y., are preparing a reprint of DOBELL'S Report on the Progress of Practical and Scientific Medicine, which lately appeared in England.

*Anatomy and Physiology.*—DR. HEITZMANN, the skillful Vienna artist, is again preparing a new work entitled "The Descriptive and Topographical Anatomy of Man in 600 Illustrations," to be issued in six parts, the first of which has appeared, and treats of the bones, joints and ligaments of the head and trunk. 100 plates and 80 pp., 8vo; Vienna.

SIBSON'S Medical Anatomy has been completed by the issue of the seventh fasciculus; Churchill, London.

The *nouveautés* in Physiology are: LIÉGOIS, *Traité de physiologie appliquée à la médecine et à la chirurgie*, Vol 1, containing the Introduction, General Physiology, and the Reproductive Functions, Victor Masson et fils, Paris; and MOORE (Charles H.), *On Going to Sleep*, Hardwicke, London.

*Medicine.*—JAUMES, *Traité de pathologie et de thérapeutique générales*, 8vo., Masson, is a posthumous work edited by the author's son, and preceded by a biographical notice of the author by Prof. FONSSAGRIVES. The sixth and seventh volumes of GINTRAC, *Cours théorique et clinique de pathologie interne et de thérapie médicale* have been announced by G. Baillière. Renshaw, London, was to publish "early in June," the sixth revised edition of TANNER'S Practice of Medicine, in 2 vols., 8vo.

The following monographs on special subjects are advertised: CAMPAGNE, *Traité de la manie raisonnée*, Masson;—OLLIVIER, *Des atrophies musculaires*, Delahaye; SANNÉ, *Etude sur le croup après la trachéotomie*, 274 pp. 18mo., G. Baillière;—BLACHE, *Essai sur les maladies du cœur chez les enfants*, Asselin;—BAUDOT, *Traité des affections de la peau*, Savy; this treatise on skin diseases follows the teachings of M. BAZIN;—PURDON, *On Neurotic Cutaneous Diseases*, 119 pp. 8vo., Lewis, London;—SQUIRE (Balmanno), *Colored Photographs of the Diseases of the Hair*, Churchill, London.

*Surgery.*—We are promised a new American work on this branch, a "Complete Practical Textbook of Surgery," by Prof. HAMILTON, of New

New York, which is to be printed by Wood & Co. GIRALDÈS' important clinical lectures on the surgical diseases of children have been completed by the issue of the 5th part, making in all 862 pp. 8vo. Delahaye, Paris.

COULSON (Walter J.), *A Treatise on Syphilis*, 8vo., is advertised by Churchill, London.

In ophthalmic science, we note: GEROLD, *Die ophthalmolog. Physik u. ihre Anwend. auf d. Praxis* (Ophthalmological Physics and their Application to Practice") 283 pp. Vienna; MEYER (Prof. Edouard), *Leçons sur la réfraction et l'accommodation*. Chamerot & Lauwereyns, Paris;—and a translation of Prof. KNAPP's work on Intraocular Tumors, by Dr. COLE, of Chicago, which Wood & Co. have nearly ready. In otological science, we have two important announcements,—a translation of POLITZER's well known illustrated work on the tympanum (*Die Beleuchtungsfelder des Trommelfells*) by Drs. NEWTON and MATHEWSON, also in preparation by the last named New York firm; and a Manual of the Diagnosis and Treatment of Diseases of the Ear by ERNEST HART, which is in the press of R. Hardwicke, London, and to be ready about the end of January next.

*Obstetrics. Diseases of Women.*—Prof. BYFORD, of Chicago, is engaged on a Text-book of Obstetrics, which is being prepared for publication by Wood & Co. Asselin, Paris, announces ELLEAUME, *Traité élémentaire des maladies des femmes*.

The "*Journal of the Gynæcological Society of Boston*, devoted to the advancement of the knowledge of the diseases of women," is a new monthly, the prospectus of which reached us too late for notice in our last issue. The first number, for July, has come to hand, and we hail it as the first gynæcological periodical in the United States—indeed, if our memory is right, the first in its branch anywhere. The editorial staff consists of Drs. WINSLOW LEWIS, HORATIO R. STORER, and our friend GEORGE H. BIXBY, late of St. Louis, and well known to most of our city readers. The Journal starts under favorable auspices and will be a success, and, we trust, a credit to American medicine.

*Materia Medica and Therapeutics. Toxicology.*—Dr. SYDNEY RINGER's Hand-book of Therapeutics, just issued by H. K. Lewis, London, is regarded by some of the British critics as the most successful attempt at reducing to a system and within a small compass the present state of therapeutical science. It is based, in spirit, plan and classification, on the small German work of BUCHHEIM, who first ventured to treat materia medica and therapeutics as an exact science.—"*Researches into the Action of Mercury, Podophylline and Taraxacum on the Biliary Secretion*," a report by the Edinburgh Committee of the British Medical Association, framed by Dr. HUGHES BENNETT, Chairman, has just been published by Edmondstone & Douglas, Edinburgh.

BANDLIN, *Die Gifte u. ihre Gegengifte* (Poisons and their Antidotes) vol. 1, 286 pp. 8vo., Basel.—Wood & Co., are preparing: BEARD and ROCKWELL, *A Practical Compendium of Electricity and Electro-Therapeutics*.



**METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.**

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 p. m. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

**THERMOMETER FAHRENHEIT, 1869.**

MAY.			JUNE.		
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	41.0	55.0	1	58.5	83.5
2	45.0	66.5	2	60.0	86.0
3	49.0	75.0	3	63.5	85.0
4	54.5	84.0	4	66.0	74.5
5	60.5	85.5	5	50.5	69.0
6	50.5	70.0	6	51.5	75.0
7	45.5	68.0	7	53.5	76.0
8	46.0	68.5	8	59.0	71.5
9	48.5	80.5	9	64.0	81.0
10	56.5	84.5	10	55.5	82.5
11	62.0	67.0	11	58.0	87.0
12	55.5	61.0	12	62.5	70.0
13	46.5	63.0	13	61.5	78.5
14	49.5	65.0	14	52.5	71.5
15	48.5	75.0	15	49.0	73.5
16	45.5	66.0	16	53.5	79.0
17	45.5	61.5	17	63.0	87.0
18	50.5	62.5	18	68.5	90.5
19	46.0	73.5	19	69.5	98.0
20	53.0	75.5	20	67.0	91.5
21	57.5	63.0	21	67.5	81.5
22	47.5	73.0	22	61.5	87.0
23	49.5	80.5	23	58.0	75.5
24	57.0	80.5	24	59.5	82.5
25	62.5	91.0	25	68.0	90.0
26	67.5	92.0	26	70.5	90.5
27	64.5	87.0	27	71.5	88.0
28	60.0	88.0	28	68.0	87.5
29	70.5	80.0	29	70.5	83.0
30	64.0	82.5	30	69.0	83.5
31	64.0	80.0			
Means....	53.7	75.6	Means....	61.7	81.9
Monthly Mean...	64.6		Monthly Mean...	71.8	

## REPORT OF ATMOSPHERIC ELECTRICITY. TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

### 1.—Monthly Mean of Positive Atmospheric Electricity.

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 9 years.	No. of Thunder Storms.	Prevailing Winds.
1869	May.	1.0	1.3	0.5	0.9	0.2	0.2	0.7	4.0	4	SW. SE. S.
1869	Jun.	0.2	0.3	1.0	0.5	2.5	0.7	0.9	2.5	3	SW. S. SE.

### 2.—Monthly Mean of Temperature, Fahrenheit.

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	May.	57.8	65.7	71.3	73.5	67.8	63.3	66.6
1869.	June.	66.2	75.8	81.0	80.6	75.5	69.0	74.7

### 3.—Monthly Mean of Relative Humidity.

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	May.	81.3	66.0	57.3	54.0	64.3	73.8	66.1
1869.	June.	82.4	65.4	59.7	61.4	67.6	80.5	69.3

The temperature of May was 64.6, the average is 66.3. The quantity of rain in May was 3.60, the average is 4.94. S. W., S. E. and S. were the prevailing winds. It was a cool, dry and healthy month. The temperature of June, 71.8, was also below its average, which is 74.4. But June was distinguished by its great many rainy days. There occurred during the month but three thunderstorms with copious rain, but short rainshowers and protracted drizzly rain were quite common, interfering rather unfavorably towards the end of the month with the harvest. Nevertheless the quantity of rain that fell in June, 6.25, is not much above its average, which is 5.66. In Allenton, St. Louis County. P. R. R., the quantity of rain, according to Mr. FENDLER's observation, amounted to 8.14. As this rainy season seems to have extended over the greater part of the Mississippi Valley, an unusual rise of the rivers was to be expected. That so-called June rise, generally attributed to the melting snows of the Rocky Mountains, is after all more dependent on a simultaneous rainfall in the Mississippi Valley. In the month of June a greater quantity of rain falls on an average, than in any other month of the year, and when it exceeds the usual quantity, an overflow is the natural consequence.

The general health in June was pretty good. The weekly mortality was generally below a hundred, except in the last week,—a proof, that of all the meteorological phenomena temperature is the most important as to health, and that excessive heat is the most dangerous element in producing disease.

THE SAINT LOUIS  
Medical and Surgical Journal.

SEPTEMBER 10, 1869.

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Original Communications.

*ON THE DIAGNOSIS OF COXITIS.*

By LOUIS BAUER, M.D., M.R.C.S. Eng., etc., of St. Louis.

The marked achievements of the last few years in the improved local treatment of morbus coxarius have obviously tended to slacken the zeal for further pathological and clinical investigation. Though our knowledge in this department is materially enhanced over that of our professional ancestors, yet we are far from perfection.

The primary form of coxitis in children is probably best understood, because so frequent and uniform, almost invariably having traumatic causation, commonly originating in lesion of the round ligament; presenting the same succession of symptoms, and, in fine, terminating in caries and total destruction or separation of the femoral head. The opportunities for thorough research of this remarkable affection, have been manifold and varied. And yet, within this narrow scope, there are occasionally varieties so different and obscure in their manifestations as to hide them from diagnostic penetration.

A marked case of this description was some years ago presented to the N. Y. Pathological Society by Dr. Voss. He had lost a little patient from typhoid fever, who suffered additionally from hip disease. The symptoms of this affection had been indicative of the second stage, and unusually violent. Post mortem examination of the affected joint disclosed intense synovitis, with copious effusion, and a small sequestrum at the neck, not quite detached. It would have been impossible to recognize the cause of the trouble, or to anticipate the prospective differences from the ordinary course of idiopathic coxitis.

The same affection in adults is not only less frequent, but its clinical and anatomical character is so vastly different that it is almost impossible to recognize it as the same morbid process. That it should be less frequent may be easily accounted for by the perfected osseous union and nutrition of the femoral head on the one hand, and the lessened liability to injuries on the other. In exemplification of the change in the clinical aspect, I quote BONNET's case :—On assuming his clinical duties, as the successor of PETREQUIN, in 1842, B. found at the hospital a young man, aged twenty-two, with a fistulous opening at the right side of the sacrum, the result of a large cold abscess. The patient had never experienced pain, nor did he then present any malposition or inconvenience in the mobility of the femur. Autopsy revealed a large pyogenic cavity under the glutei, continuing through the sciatic notch into the pelvic cavity, occupying the iliac fossa and passing down into the right hip joint. The articular cartilage of both femur and acetabulum was destroyed, the contiguous bone not softened. The joint was opened at its anterior aspect and communicated with the fascia of the ilio-psoas muscles. The diagnosis had not been made out in this case.

About three years ago I was consulted by Drs. BELL and DRAKE, of Montreal, concerning a young woman of the same age as the previous patient. The history of her

case bore great similarity to that of BONNET. There were several fistulous openings at the thigh and gluteal region, being the remnants of several abscesses which had formed without any marked suffering, and from which there was still a copious sero-purulent discharge. The patient was in a tolerably good state of nutrition, and scarcely complained of pain; her menstruation had been suspended, and she was somewhat hysterical; appetite and rest were good, and the thoracic organs free from disease. The most careful examination under chloroform did not disclose an affection of the hip-joint. Its surfaces glided smoothly upon each other; there was certainly no trace of crepitus nor any increase of purulent discharge on motion. The corresponding extremity presented the normal length, position, and mobility, and there were of course no contractions of muscles. The exploration of the pelvic cavity, per vaginam and rectum, revealed no abnormal condition.

The consultation was, of course, without result. There was no tangible evidence of suppurative periostitis or coxitis, and from all we could elicit the whole trouble might have been reduced to subfascial abscess. Several months after, the attending physician forwarded to me a specimen derived from the patient. It consisted of the upper third of the femur and the acetabulum; the articular surfaces of both were denuded of their cartilages, and the bony surface superficially corroded. Thus genuine coxitis had after all existed for not less than two years, without exhibiting even *one* of its characteristic symptoms by which it might have been recognized. But for the failure in diagnosis, either of these cases might have been saved by timely exsection.

I am at a loss to suggest any measure that might lead to a reliable discrimination, although I have bestowed a good deal of reflection on the subject. Probing is of no service, since the fistulous tracts are so circuitous as not to permit us to approach the affected joint. Free opening of the abscess and direct ocular and digital exploration is perhaps the only way to arrive at a clear understanding of the path-

ological difficulties. Even this method would probably have failed in BONNET's case. Fortunately these cases are of so rare occurrence, that a life may be spent in the active pursuit of surgical practice with little probability of meeting one of them.

There is likewise a considerable difference between *primary* and *consecutive* coxitis in children, both in a clinical and pathological aspect, and a few remarks on this interesting topic may be deemed opportune.

The consecutive form of this disease is by no means rare, although it bears no numerical comparison with the primary. The causes which give rise to this malady are varied, the most frequent being periostitis and abscess in the immediate neighborhood of the joint. It is not necessary that the pus of the latter should originate in that locality, and that the capsular ligament should be directly softened by periarticular inflammation. Instances are not wanting in which the morbid products of a carious spine have descended below the fascia of the ilio-psoas muscles, and perforated the capsular ligament of the hip joint.

In a recent communication of Prof. BILLROTH,\* two out of sixty-one cases of vertebral caries had been complicated in that way. I have observed one from the same cause, which deserves mention.

The patient, a boy of eleven years, was brought to me from a malarious district of Ohio. He had repeatedly suffered from intermittent fever, and thus contracted enlargement of both spleen and liver, and hydræmia. Whilst in poor health he fell upon his back, engendering thereby caries and posterior curvature of the spine. The matter had descended on both sides of the body, established on the left a fistulous opening below POUPART's ligament, and on the right it had found its way into the hip joint. Autopsy revealed a moderately large and ragged opening at the internal aspect of the capsular ligament, a moderate quan-

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\*Archiv für klinische Chirurgie, Berlin, 1869.

tity of pus, maceration, softening and enlargement of the caput femoris,\* with corresponding changes of the synovial lining; there was no displacement. The most remarkable circumstance in the case was, that, with the exception of moderate soreness on incidentally moving the joints, the patient was free from suffering. The limb was simply flexed and drawn up to the abdomen, and the surroundings of the compromised hip joint considerably intumesced.

There are two specimens in my collection, which furnish an anatomical commentary on the points at issue. A young girl of sixteen years was brought to the Long Island College Hospital in a pyæmic condition originating in pelvic periostitis. The autopsy disclosed besides multilocular abscesses a perforation of the acetabulum, evidently of short duration; neither the ligamentum teres nor the head of the femur had materially suffered.

From a similar cause I lost a girl of nine, in whom there had been periostitis of the femur and subsequent perforation of the capsular ligament of the hip joint. As in the former case, the articular surfaces and ligamentum teres had held their own; the neck however had become corroded, and the margin of the articular cartilage was about peeling off.

I could increase the number of reports of such cases having been under my professional charge, but the few related will serve my purpose, of calling attention to the differences of pathology and semeiology in consecutive coxitis. The most prominent operative causes governing the differences of the two forms of infantile coxitis are:

1. *The tissues originally involved.*—In primary coxitis of children, as repeatedly stated, the ligamentum teres is originally involved, and its eventual ulcerative destruction unavoidably determines the structural disintegration or detachment of the femoral head, from want of physiological maintenance. In consecutive coxitis, the round ligament

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\*The only time I have seen enlargement of the femoral head.

is not more endangered than any of the other components of the hip joint, and if preserved, as I have mostly found it, the cause of caries of the femoral epiphysis from this source is consequently limited. Even in primary coxitis of adults we only meet with superficial disintegration of the caput femoris, notwithstanding the total destruction of the round ligament, simply because the nutrition of this portion of the bone is improved by its complete union with the shaft. It would seem, however, that the nutrition of the superior extremity of the thigh bone never acquires a high degree of perfection through the nutrient vessel of the bone, since the formation of callus in fractures of the femoral neck and head is rarely accomplished.

2. *In primary coxitis the morbid exudation forms within the joint.* Hence symptoms are engendered of intra-articular pressure and distention of the capsular ligament. This condition not only gives rise to that malposition of the affected extremity so peculiar to the second stage of morbus coxarius, but likewise to reflex symptoms which have attracted the attention of clinical observers. Now, all these symptoms are entirely wanting in consecutive coxitis, because the matter generally enters through a large aperture of the capsule, from without, and can neither collect, nor cause intra-articular pressure.

3. On account of the absence of reflex contractions, it is obvious that there can be *no abnormal abduction and apparent shortening* of the limb in the consecutive form.

4. The *caries of the joint* is generally more extended over the acetabulum and the neck of the femur, but mostly superficial. Sometimes the neck alone is corroded, and in more protracted cases the disease extends gradually over the head of the femur and acetabulum.

In my lectures I have remarked that periostitis of the femur, particularly when close to the hip joint, is apt to occasion symptoms not unlike those in idiopathic infantile coxitis, to wit: nocturnal pain, with oscillation and contraction of certain muscles, with consequent malposition of



the affected extremity. So striking may be the similarity of the clinical character as to lead to erroneous diagnosis.

I have had but lately a case of this description under treatment, in which the true nature of the disease was only recognized at a very late date. The patient is eleven years old. From causes unknown he became subject to periostitis of the right thigh bone. For months he suffered frightful tortures from nocturnal pains and muscular tremor. Gradually some of the flexor and adductor muscles became permanently shortened, thereby fixing the extremity in a flexed and adducted position, with obliquity of the pelvis towards the healthy side. What was calculated more to delude the attendant was the seemingly perfect immobility of the affected joint. I was called upon to take charge of the case two years after the inception of the disease, during which time the patient had remained in a cramped position. It was then easy enough to make out the diagnosis, which at an earlier date must have been very difficult indeed.

The adjoining illustrations afford an accurate estimate of the appearance of the patient. The disparity in the circumference of the thighs will be readily noticed. The enlargement of the right arises partly from the intumescence of the soft structures, and partly from the formation of a sequestral chamber. There are several fistulous openings along the diaphysis of the femur, through



Fig. 7.

which dead and movable bone can be reached. The bony enlargement terminates below the large trochanter. The shortening is but moderate and the patient thus enabled to reach the floor with his heel. Nor does he much invert the toes. Under chloroform the corresponding hip joint was found to be intact and movable.

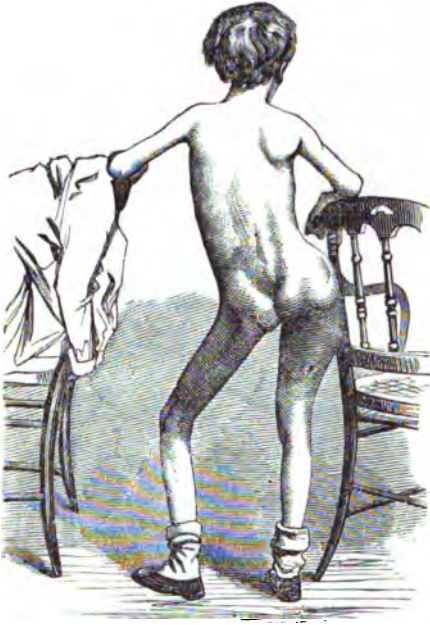


Fig. 8.

The most remarkable circumstance in the case is, however, the malposition of the opposite member, being flexed in both hip and knee joint, and disproportionately adducted and everted; that is to say, exactly in that position so characteristic of the second stage of idiopathic infantile coxitis. And, moreover, the left hip joint proved to be obliterated by sclerotic structure, and its mobility almost lost.

Whether this result was brought about by simple disuse of the articulation or by subacute collateral synovitis, I am unable to determine.

1116 PINE STREET. August, 1869.

#### FOUR CASES OF PLACENTA PRÆVIA.

By MONTROSE A. PALLAN, M.D., of St. Louis.

During the past twelve years I have met with four cases of *placenta prævia*, in all of which the mother was saved, as were two of the children.

Each case was managed differently, the peculiarities of which will be given in detail :

CASE I. Mrs. K. fell in labor, attended with most copious flooding, in the month of February, 1856, and by the time I saw her, some three hours after the inception of the lying-in, I found her almost pulseless, syncopical, bathed in a cold, clammy perspiration, with cold extremities, nearly blind, and throwing her arms and head to and fro. A vaginal examination revealed the os well dilated with the placenta presenting over it. The pains were feeble and inefficient, and as she had lost much blood, I deemed it best to proceed to deliver at once, and insinuated my hand as gently as possible into the uterus, and having separated the placenta from the uterus, delivered it; this was followed by another gush of blood, and I was very fearful lest the patient would die. I called for a lump of ice, but as it could not be gotten soon enough, I took a piece of sponge saturated with iced water and passed it within the neck to the site of the bleeding orifices; this produced great shock, but roused the uterus to action, and the head coming down the hæmorrhage ceased, and a dead child was born in less than twenty minutes. The child was blanched from the excessive loss of blood. The mother made a tedious recovery.

CASE II. In September 1866, whilst the epidemic of cholera was at its height, I saw Mrs. —, who had been in labor some thirty-six hours, and the hæmorrhages were so copious and frequent that she was much prostrated, and at the time of the first visit, had a pulse of over 120 per minute. As the os uteri was not much dilated, and she had been tamponed by the medical attendant who preceded me, a new and more complete plug of cotton saturated with a solution of sesquichloride of iron was inserted as far as possible into the os, and the vagina stuffed with dry cotton, the whole being retained *in situ* by the T bandage, according to the recommendation of WIGAND. I expected that the plugging of the os uteri and the vagina would arrest

the hæmorrhage and excite uterine action, and that the whole mass would be expelled together. She became weaker however, and in a couple of hours (the pains being slight, notwithstanding brandy and ergot of rye had been fully administered) the tampon was removed and the placenta was found attached to about three-fifths of the cervical zone, to the left and posteriorly. Delivery was effected by podalic version, without interference with the placenta, the child being dead. The mother was much exhausted, and was barely kept alive for some hours by the free use of stimulants; she, however, finally got up after many weeks of tedious and lingering illness.

CASE III. In August 1868, I was sent for by a midwife who had in charge Mrs. —, whose labor had been ushered in by a hæmorrhage, which had continued more or less copiously for four hours before I saw her. In the meantime, however, ergot had been given in large doses, and the pains were quite active and the hæmorrhage was not great, when I saw her. An examination per vaginam revealed the placental disk presenting, and the attachments were about one-half around the cervical zone, a little to the right of the median line and equally spread out both anteriorly and posteriorly. The membranes were tense and the head was pressing down, the presentation being the left iliac occipito-anterior. As the uterine actions were so strong, the membranes were punctured, the waters evacuated, and the delivery of a vigorous living male child was rapidly effected. Both patient and infant did well, the mother rising from the parturient effort as early as is usual where no præternatural conditions exist.

CASE IV. On the night of the second of May 1869, I was hastily summoned to Mrs. M., who had "*another* fearful bleeding," as her husband informed me, and who also stated that she had had one prior to this about a month before. She was in the last week of the eight month of pregnancy, and when I reached the house, I found her very much frightened and agitated, but learned that the

flowing had almost ceased. Whilst about to proceed with the vaginal examination, Dr. E. MONTGOMERY came in, and after a consultation on the matter, I proceeded to complete it. The os uteri was about as large as a sixpence, the cervix was still quite appreciable, being thick and about three-quarters of an inch long, and the edge of the placenta could be distinctly felt lying directly over the canal of the cervix; the presentation was footling. We waited some thirty minutes, and finding no farther indications of bleeding, ordered an opiate and left.

At six o'clock next morning I was again summoned, and found that labor had actually commenced, and that at each pain a considerable quantity of blood was welled forth. Finding that the premature delivery was inevitable, I introduced the smallest of BARNES's dilators into the cervix, the dilator was pumped full of iced water, which completely checked the bleeding, whilst it dilated most beautifully, so much so, that in about two hours it fell into the vagina, followed by a very profuse discharge of blood; the second of the series of the dilators was then applied, with like beneficial results. As the patient was quite exhausted from the flowings, her pulse small and feeble, the face pale and anxious, and her friends manifesting the usual anxieties of such a trying position, I requested a messenger to be sent for my father, Prof. M. M. PALLER. Upon his arrival the hæmorrhage had checked up completely, in fact there had been but slight drainage since the application of the "No. 2" dilator. In about three hours more the "No. 2" was found to have escaped into the vagina, followed by another gush of blood; but as this was anticipated from the character of the pains, it was not long before a "No. 3" was introduced into the vagina, and such of it as could be put within the now almost obliterated neck. In about an hour the pains were most marked and rapid, the patient losing but little blood, but shortly after the dilator fully distended with water was ejected on the bed, *through the vulva*, by the powerful contractile efforts of the vaginal muscles; as the

child lay in the superior strait and presented by the breach and feet, it is not probable that it could have pushed the plug from the vagina. This was followed by such a loss of blood, that the patient complained of being blind, and her pulse was small, feeble and flickering. The membranes were at once punctured, and the hand carefully passed by the side of the placenta, and the feet brought down, and delivery effected. She was much exhausted, and was sustained by the free exhibition of brandy, iced champagne, etc., etc. The child was born in a condition of apparent death (CAZEAUX), but after an hour of patient working by inducing artificial respiration, frictions on the spine, warm baths, etc., etc., we had the gratification to hear it cry; however, it died some hours afterwards, evidently of atelectasis pulmonum. The patient made a slow recovery, having had several intercurrent attacks of acute pyelitis (inflammation of the pelvis of the kidney and ureter), as was demonstrated by the appearance of blood in the urine, as also some of the tribasic salts and some of the urates.—

Authorities do not agree as to the most certain methods of treatment of placenta prævia, whether it be partial or complete. Whatever may be the conditions and symptoms of the patient, the accoucheur must be guided by the individualities of each case. When the head can pass and compress the bleeding vessels, it is evidently proper to puncture the membranes, evacuate the liquor amnii, and permit it to enter the brim of the pelvis, and if necessary, the labor can be rapidly completed by means of the forceps, and both child and mother saved.

Sir JAMES SIMPSON, believing that most of the hæmorrhage came from the placental vessels themselves, advised the entire disruption of that organ, and gives many cases where such practice has been fraught with much benefit; yet, the dangers to the child are so great that it is to be resorted to only in extreme cases. Besides, whenever the placenta is torn away, podalic version is most usually

necessary, and this is an operation much easier described than performed, and whenever made, is more or less hazardous to the mother, already weakened by the losses of blood. She would be farther exhausted by the continuous bleeding during the manipulation, and is subjected to the shock of a foreign body being carried into the uterine cavity.

BARNES'S method of separating only that portion of the placenta which is attached to the neck proper, "the cervical zone, or dangerous placental seat," is the more philosophical, as it frees the uterine cervical tissue, and its dilatation closes the gaping vessels, and thereby gives greater safety to the child. The reasons adduced by Dr. BARNES, who correctly states that the source of bleeding is from the uterine, and *not from the placental vessels*, are sufficiently patent to every one without discussion. The procedure of WIGAND, consisting of plugging the vagina, and thereby compressing the hæmorrhagic sites from above and below, answers very well if the pains are strong enough to press the head of the child down upon the tampon below, but should the inertia of the uterus be such as is commonly met with, where the patient is exhausted from the flooding, then this method is risking too much. Again, if the presentation be a footling, the firm substance of the child's head is absent, and the engaging of the foetal pelvis in the mother's pelvis is not to be relied upon to induce such pressure as will close the vessels.

The rupturing of the membranes, as above stated, is most excellent, provided the head be advancing, or sufficiently advanced so as to make its way through the os uteri, thereby effecting a natural separation of the placenta from the cervical zone, and causing such dilatation as will close the mouths of the uterine vessels; but when we cannot anticipate that the uterus will dilate so rapidly as to insure safety to the mother, we have the dilator, which rapidly accomplishes the object in view, co-added to the cold water applied, which is of itself a reliable hæmostatic, as well as

a most potent rouser of uterine contractions when applied to the cervix, causing reflex action, and urging all of the muscular fibres of the uterine system to do their respective duties.

1523 OLIVE STREET, July 17th. 1869.

*ON THE LEADEN COLOR OF THE TONGUE IN MALARIA.*

By CHARLES O. CURTMAN, M.D., Professor of Chemistry in the Missouri Medical College.

For several years past the peculiar color of the tongue in malarious fevers has attracted my attention, and finding it almost uniformly present I was induced to note its occurrence in all the cases treated, together with such other symptoms as appeared to have a bearing upon it. From a large number of cases thus carefully observed, with a view to ascertain the value of the appearance of the tongue as a diagnostic sign in malaria, I have been led to make the following deductions :

In malarious affections the color of the dorsum of the tongue as far back as the circumvallate papillæ, is of a bluish gray tinge, somewhat resembling that of old sheet zinc or lead. It occurs in various degrees of intensity, giving the impression of a covering of greater or less thickness, superimposed upon the epithelial surface, sometimes quite thin and transparent, at other times more opaque. Sometimes it has the appearance of being seen through a viscid mucous superstratum, at other times it is quite dry, but when present always has the peculiar leaden hue. It is not due to anæmic conditions, nor does it present exactly the same coloration as the tongue does in anæmia. I have not been able to detect any change of the color, in the same individual, during the process of an intermittent fever through its different stages, but have observed the same appearance in the cold, the hot, and the sweating stages, and could not see any alteration in it during the intermission. The color may be observed in equal intensity in the



feeble, emaciated patient who takes an ague during the period of convalescence from exhausting disease, as in the plethoric, robust man of full habits, who has been exposed to the paludal poison.

In some cases, however, though malarious fever was unmistakably present, I could not observe this color over the dorsum of the tongue, but only around the edges and tips, but in those cases there was an opaque coating of the tongue of a brownish yellow or dirty white color, such as is usually denominated bilious. This presented the appearance of being superimposed upon the leaden covering, which it did not entirely overspread, but permitted to be seen at the tip and edges. This appearance was frequent in the remittent type.

Not a single case has been thus far observed by me in which the malarious affection was undoubtedly present, while the tongue retained the clean, natural surface of perfect health. The leaden color disappears completely shortly after the entire cessation of the malarious symptoms, and serves as a valuable index of the perfect restoration to health. In several cases the leaden tongue has been observed without any concomitant symptoms which could fully establish the presence of malarious disorder, excepting a general malaise and lassitude, which so often are the prodromata of intermittent or remittent fevers. Not all of those cases could be heard from afterwards, but in every one of those that came under subsequent observation the distinctive symptoms appeared shortly afterwards unless prevented by interfering medical treatment; so that I have considered myself justified in predicting an attack of fever with some degree of certainty from the presence of the leaden tongue alone. This peculiar appearance of the tongue has never been observed by me in uncomplicated non-malarial diseases, but has in doubtful complications helped me at different times to make out an accurate diagnosis of malaria, vindicated by the subsequent development of the disease in an unmistakable form.

A modification of the common leaden appearance has in a number of cases shown itself co-existing with typho-malarial affections. The leaden color is there distinctly visible in the lateral portions of the dorsum of the tongue, while the central portion on both sides of the raphe has a different color, so as to give rise to three longitudinal stripes—the two outer of leaden hue, the inner either entirely denuded of covering or densely covered with a furry layer of various thickness, brown or yellow or dirty white, also generally differing in the degree of moisture from the border stripes.

Whether the observations presented in the above sketch may prove to be of real value or not, to me at least they seem to have been of considerable help in recognizing malaria at a glance by a simple inspection of the tongue. The same appearances have been seen by a number of medical friends whose attention had been called to them, and, so far as I am informed, with similar results. It may be premature to draw definite inferences from them at present. A more extended and careful scrutiny may fail to establish their general occurrence, and hence prove them useless as diagnostic signs; but if I succeed in directing the attention of other observers, better qualified than myself, to the more careful study of the protean disorder now termed malaria, the time employed in my investigations will not have been spent entirely in vain.

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*LARGE ENCHONDROMATOUS TUMOR OF THE  
METACARPUS.*

By PAUL F. EVE, M.D., Prof. of Surgery in the Missouri Medical College.

During the professional study of forty-three years, a goodly number of cases of *enchondroma* have come under my observation. Since the rejection of the old unmeaning terms of *spina ventosa*, *osteo-sarcoma*, etc., that of fibro-cartilaginous tumor was suggested for this peculiar osseous

degeneration; but the name *enchondroma*, proposed by MÜLLER and adopted by PAGET, has now generally been accepted by the profession.

In the November number of the *Medical Reporter* for last year, I gave an account of two cases of this affection, each involving the ilium to an enormous extent; and at the meeting of the State Medical Society, held last April in the Capitol of Tennessee, another instance of the same disease, and affecting the same bone, was presented to its members, and those of the Nashville Medical Society, for examination. The patient had served in the infantry of the Southern army, but found he had to change to cavalry, as carrying the cartridge-box produced pain in his right flank. One day after the war, rousing up from an afternoon's nap, in smoothing down his shirt, he detected a tumor in the right iliac region. It had occasioned no pain, and he knows of no other source to account for its origin than the one just alluded to, viz.: the uneasiness felt in wearing a cartridge-belt. The tumor now reached within about an inch of the umbilicus or median line, and upward about three inches to the false ribs, so as to impinge upon them when the body was flexed upon the pelvis or the converse. It did not, however, project much forward or externally, but did so chiefly upwards and inwards. It still produced no pain, neither had it interrupted the functions of life; and our patient, after consultation in his case, was advised to return to his home in Mississippi, to lead a prudent life, being temperate in all things, and report progress. None of us had faith in medicines to arrest the disease, much less to remove the tumor, which was believed to be enchondromatous; he had also largely tried the usual remedies recommended in such cases, and was candidly told that every day would, in all probability, make an operation more hazardous, but the performance of which was even now extremely unsafe. Since moving to St. Louis, I have been consulted by letter, as the tumor still augments.

It is in this singular affection that we find the largest

osseous tumors. In the majority of those met with in my practice, the ilium, the maxilla and bones of the hands have been the parts attacked. There is a patient in an adjoining county who is said to have almost all his bones thus affected, and I have seen all those of one hand attacked.

The case now to be described is that of Mrs. P., æt. 69, coming from Dechard, Tenn., and who is of pretty fair health and constitution. She noticed, fifteen years ago, an enlargement of the first metacarpus, which she attributed to shelling corn, and which now measures *fourteen* inches in circumference. She comes seeking relief from intense suffering, declares the agony in the bone almost unendurable, and demands its removal. The tumor is remarkably tense, is painful upon the slightest pressure, has a smooth shining surface, with two large projecting nodules still more tense, as if ready to burst, and slightly elastic or fluctuating, but the base of it is very hard. It involves the totality of this bone—the first right metacarpus—but fortunately without affecting its articulations. Agreeing in consultation that amputation at the metacarpo-carpal joint alone promised success, a tourniquet was applied to the brachial artery and ether administered. An incision then opened the largest nodule of the tumor, out of which spurted a gelatinous fluid, and then blood escaped. The finger introduced met with no spiculæ, cartilage or bone, and when laid open completely, after the operation, the disease seemed to have originated from the interior of the osseous structure or internal surface of the periosteum, and to have expanded, liquified, and disintegrated the entire metacarpus. Besides the jelly-like matter and blood which escaped by the first puncture and incision, the larger mass consisted of a honey-comb structure, or like rotted sponge in lumps varying from the size of marbles to buckshot, and loosely held together. Etymologically considered strictly, this tumor lacks the *chondrus* to make it enchondroma, for it will be seen no cartilage whatever was found about its composition, neither

was there any recognized periosteum ; thus confirming M. OLLIER's, of Lyons, opinion of osteogenetic faculty of this membrane.

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*DIOSCOREA VILLOSA (WILD YAM).*

By C. T. HART, M. D., of Boscobell, Wisconsin.

A more extended clinical experience is daily developing a much broader range of action for the dioscorea. For a long time it was confined almost exclusively to the treatment of bilious colic, in which disease it has been regarded as very nearly a specific. More recently it is found to possess equally positive, if not so speedy, therapeutic value in the management of other diseases generally found more obstinate and distressing.

There is no doubt that remedies manifest special affinities for certain organs and structures, and, no matter how introduced into the circulation, seek out and set up a modified functional or structural action in special parts. Classified on this basis, the dioscorea is found to act generally on mucous surfaces, particularly in overcoming irritation of mucous membranes, attended with pain resulting from spasmodic contraction of its muscular fibres. Here its principal and specific value is manifested, and it may be administered with benefit in such disordered conditions, whether of the mucous membrane of the stomach, bowels, bladder, uterus, or the lining of the ducts opening into the primæ viæ. Commencing with disorders of the stomach, we will find it useful in allaying vomiting attending painful gastric irritation. In cancer of this organ, it is superior to any agent in soothing the pain, distress, and vomiting attending it. Passing into the duodenum and tracing up the common duct into its minute ramifications in the liver, we find that here too it seeks out its special affinities, and often, like magic, dissipates the pain, irritation and spasm of these tubes, which give rise to bilious colic ; and by

removing the obstructions and abnormal regurgitating action of the intestines, opens the way for pent-up acrid bile to resume its natural channel, and pain, vomiting and distress rapidly disappear. In no disease, probably, is any single remedy more prompt and certain in action than the dioscorea in bilious colic.

Continuing further down the intestinal tract, we find that its beneficial action is not confined to the upper portion alone, but that it grapples diseases of the lower bowel as well, when attended by the peculiar conditions—pain and spasm. Thus in tormina, the painful tenesmus of dysentery, it is prompt to give relief, and can be most advantageously combined with other remedies in treating this distressing disease.

We can also trace it to the uterus, and in that form of dysmenorrhœa dependent on spasmodic irritation of the mucous membrane of the uterine neck, it acts promptly, and is a valuable adjunct, if not in every case singly equal to the task of removing the disorder.

So too with the bladder. Dysuria, arising from irritation of the neck, yields promptly to the dioscorea, either alone, or, better, associated with other agents. Other diseases may be mentioned, but these examples are sufficient to point the physician to the general class of diseases in which this agent is indicated.

From what has been said, it would appear that the dioscorea may be classed as anodyne and anti-spasmodic, allaying excitement, and secondarily relaxing muscular tissues. In certain cases it will relieve pain where all preparations of opium entirely fail. This fact, together with its specific and unvarying action on certain diseased tissues, places it among our positive remedies, and renders it doubly valuable to the physician. The preparation usually used is the fluid extract, which contains very nearly, if not all, the virtues of the root, and may be relied on in the treatment of the above mentioned diseases.

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*FIVE CASES OF ACUTE AND CHRONIC DISEASES OF  
THE BRAIN AND SPINAL CORD.*

Reported by THOS. FOX, M.D., Resident Physician of the Quarantine Hospital.

Feeling an interest in the subject to which the following cases relate, and knowing the few opportunities which the profession in general have of verifying the truth of diagnosis in the cases which come under their observation by post mortem examination, I deem it but my duty to make known the following cases, which are of most interest among those which I have collected :

CASE 1. *Paraplegia caused by a Tumor in the Spinal Canal.* C. R., æt. 50, was first seized by slight anæsthesia and loss of power in the right foot, which gradually extended upwards to the knee, when the same symptoms made their appearance in the left lower extremity. From this period loss of sensation and voluntary motion extended upwards until there was complete paralysis of the upper and lower extremities, with anæsthesia extending upwards to the level of the cartilages of the false ribs. Reflex spasms of the lower extremities were violently excited on the slightest irritation. Absence of sensation and reflex contractions in the upper extremities.

*Post Mortem Examination.*—On laying open the spinal canal, an olive-shaped tumor, 1 1-4 inches long, of a hard, cheesy consistence and concentric growth, was found between the arachnoid and pia mater, pressing upon the anterior surface of the cord opposite the bodies of the 4th and 5th cervical vertebræ, dividing it completely, save a thin portion of the posterior columns, which were of a soft, granular consistence. The period of time from the origin of the symptoms until death was 18 months.

CASE 2. *Death caused by Abscess in the Brain.* J. R., æt. 48, was admitted suffering from hemiplegia of the left side of the body, divergent strabismus and ptosis. His previous history could not be made out. A peculiarity

noted in this case was that of the substitution of verbs for nouns in making known his wants, as in asking for a drink of milk, he would say "a drink of work." During the last two weeks of his life he was seized by frequent attacks of apoplexy, often remaining in a comatose condition during the interval between the paroxysms, at which times the pulse varied from 30 to 50, full and strong; respiration slow and stertorous.

*Post Mortem Examination.*—On exposing the brain, its superficial vessels were found highly congested. The right lateral ventricle was largely distended by serum in its posterior portion. Projecting above the floor of the ventricle was a clot of blood surrounded by pus and softened cerebral matter; the softening implicated almost to their base the posterior portion of the corpus striatum and the entire optic thalamus of the right side.

CASE 3. *Cerebro-spinal Meningitis.* E. O., æt. 11, affected from early childhood with chronic otorrhœa of the left ear. Having been exposed to cold from sleeping out at night in a small boat, he was seized by violent pain in the temple, followed by rigors, general pain, stiffness in the cervical region, vomiting and delirium. On the third day an abundant purulent discharge took place from the ear; at the same time the head symptoms and vomiting ceased. She now complained of pain in the chest and lumbar region, the latter being so severe that she cried upon the part being touched. On the 4th day the discharge from the ear ceased. Rigors, delirium and vomiting anew, followed by paralysis of the right side of the body and also of the left lower extremity. Pulse 120 and weak. Respiration short and quick. In this condition she remained for six days.

*Post Mortem Examination.*—Adhesion of the pleuræ over nearly the whole of the anterior surface of the left chest, limited pneumonitis at base of right lung; brain congested. The mastoid portion of the left temporal bone was denuded of its periosteum over a surface of half an inch



in diameter, with effusion of pus between the pia mater and arachnoid and into the mastoid cells. In the lower portion of the spinal cord, between the arachnoid and pia mater, was found an effusion of pus and blood, with softening of the substance of the lumbar enlargement of the cord.

*CASE 4. Inflammation of the Sheath of the Spinal Cord.*—A. C., colored, æt. 30, suffering from acute articular rheumatism and lithiasis. Was seized by sudden and very severe pain in the lumbar region, followed by retention of urine and complete paralysis, with loss of reflex action in the lower extremities. Death occurred on the 4th day.

*Post Mortem Examination.*—Vascular injection of membranes of the cord as high as the 5th dorsal vertebra; below this was found a layer of blood upon the pia mater, with pus between the arachnoid and dura mater. The substance of the lumbar portion of the cord had undergone acute inflammatory softening.

*CASE 5. Chronic Softening of the Cerebellum and Pons Varolii.* B. M., æt. 36, suffering for a period of 2 years from frontal headache. pain in the cervical region, and general melancholia. The patient was irritable and morose, scarcely ever speaking to any person, desiring isolation and averse to the company of others. There was a constant desire to maintain the dorsal decubitus, and when she walked she did so with an unsteady, staggering gait. About a week previous to death, there was incomplete paralysis of the right side of the body, the patient being capable of moving the limbs readily while she was in bed and her vision was directed to them, but not otherwise. There was no loss of sensation.

*Post Mortem Examination.*—The brain and its membranes presented an anæmic appearance; the great longitudinal sinus was found in a condition corresponding to that of varicose veins, its walls bulging out laterally between the convolutions of the hemispheres. The left lobe of the cere-

bellum and the left crus cerebelli were found of such a soft consistence that they could be washed away by a gentle stream of water. The gray coating of the arbor vitæ cerebelli had almost disappeared.

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STOMATITIS MATERNA.

By I. P. WILSON, D.D.S., Burlington. Iowa.

In the July number of the *St. Louis Medical and Surgical Journal* I noticed an article by Prof. PALLER under the above title. I can but differ with the Professor as regards the cause of what is commonly termed "nursing sore mouth." I am of opinion that it is the result of an impoverished condition of the system.

The child in embryo and in infancy is supported by its mother. The mother's system is continually being drained from the day of conception to the time she weans her child. She has not only her own body to maintain during gestation and lactation, but her offspring must be supplied with the bone, muscle, and nerve producing materials, even though her own system be starved for the purpose. If the system is robbed of any one of its constituent parts, the body must suffer. The bones, e. g., contain from 48 to 59 per cent. of the phosphate of lime, and the enamel of the teeth from 81 to 88 per cent., hence an immense supply of these lime salts is required to maintain the mother, and to build up the bony tissues of the child. Stomatitis materna is nearly always accompanied by extreme sensitiveness of the teeth, and a softening of the tooth structure, showing a starved condition of the entire osseous system. The lime salts have been appropriated for the development of the bony tissues of the child, while the exhausted mother is suffering the consequences of an impoverished system.

This disease is more prevalent with pregnant and nursing females, because they demand a far greater supply of those life-supporting elements; but it is not this class alone that

suffers from this condition. The non-pregnant female who is living on a poor, weak diet, is liable to suffer the same consequences. The male sex, too, may have sore mouth of the same character, but it is always given some other name, and attributed to some other cause.

In my practice as a dental physician I have been called upon to treat this disease, and when it has not progressed too far, I have only found it necessary to recommend a good, nutritious diet, with plenty of exercise in the fresh air and in the sun. If the entire alimentary canal is affected, tonics should be given, and a general constitutional treatment may be required.

One or two kinds of aliment will not keep the system in repair. A variety is necessary. Milk and eggs are said to be the only articles of food that contain all the required elements. The lime salts abound richly in the unbolted wheat flour, while fine flour is almost entirely destitute of this element.

Let the mother's system be furnished with a sufficient amount of the bone, muscle and nerve producing materials to build up the tissues of her child, in utero and during infancy, and "stomatitis materna" will rarely if ever exist.

#### *ON CONGENITAL RHACHITIS.\**

By BARNIM SCHARLAU, M.D., of Berlin, Prussia.

Most of the cases on record bear striking similarity with one another.

The skull was in all large, in many hydrocephalic, (OTTO, ROMBERG, WEBER, SCHUETZE), and in but one (MANNSFELD) the ordinary dimensions of the foetal head were noticed. Ossification was frequently prolific; in others

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\*Read before the Obstetrical Society of Berlin, and originally published in the Transactions of the Society, *Monatsschrift für Geburtskunde*, Bd. XXX. We have the pleasure of announcing to our readers that this talented author will favor our Journal with regular correspondence from that great emporium of medical science.

(CHAUSSIER, SCHUETZE) the skull was like a membranous sack with osseous isles.

It seems as if there was no neck, and as if the head was directly attached to the thorax, but the latter is wide and short; the abdomen generally largely distended.

The scrotum is generally large and firm (WEBER); and in the female foetus there is much adipose tissue at the mons veneris and the labia, whilst the rima pudendi is so small as scarcely to be noticeable. In almost all specimens the extremities are described as thick, short, and variously distorted.

The integuments are everywhere thick, too loose, and folded (WEBER); there seems altogether too much skin for the surface to be covered. Its structure is firm, and underlined with copious and firm adipose tissue (CHAUSSIER, WEBER), sometimes filled with colloid masses (MECKEL), so as to make it an inch thick.

Whilst the heart and lungs are of lesser size, the abdominal organs were mostly found to be of larger dimensions, more particularly the uterus.

The ribs are often infracted (CHAUSSIER, MECKEL), their extremities bulbously swelled (KLEIN, FLEISCHMANN, RATHKE); the sternum more or less cartilaginous, occasionally bent inward (FLEISCHMANN).

The pelvis is described by most authors as normal in form, but retarded in development and ossification. MECKEL in particular alludes to the very small osseous points. Some inquirers speak however of abnormal configuration. Thus for instance WEBER, of an unusually small pelvis; BUSCH found the lower aperture a transverse oval; KLEIN, one tuber ischii higher than the other; SCHUETZE, the pubic symphysis projecting like a beak.

The epiphyses of the cylindrical bones are commonly enlarged (KLEIN, RATHKE, MECKEL, etc.), and entirely cartilaginous (SCHUETZE), the diaphyses bent and severally infracted (OSIANDER, BORDENAVE, CHAUSSIER, MECKEL, etc.) The infractions present either no disposition of

uniting, or prolific callus (CHAUSSIER, SARTORIUS, MANNSFELD). In some cases the bones are described as clumsy and hard (OTTO, RATHKE, CHAUSSIER), without medullary cavity (SARTORIUS); in others very imperfect or wanting (HENKEL, SÖMMERING, MECKEL, SCHUETZE).

Reviewing the general features of the so-called rhachitic fœtus, the following characteristics may be deducted: externally they appear *misformed*, and, with few exceptions, they present *hydrocephalus*; *large adipose collections* below the *thickened* integuments; the extremities are *shortened by distortions*, *absolute shortness* of cylindrical bones and *distended cartilaginous epiphyses*.

Whether this condition should be pathologically designated as congenital rhachitismus, the opinions of authors vary. Most of them pronounce it so, without proof. MECKEL simply says: "The bones appear to have been arrested at a primitive period of development, and in as much as their condition denotes rhachitis, all recorded cases must be designated as *congenital rhachitis*." Others pronounce it arrest of growth and development. Yet the ossification is occasionally prolific, with heterology of bone, as for instance in a case of MECKEL, a concretion of osseous material upon the left levator scapulæ. ROSEN VON ROSENSTEIN was the first to doubt the rhachitic nature of the process, and MANNSFELD discerns considerable differences from genuine rhachitis, which superficial observation was apt to overlook.

GURLT entered methodically upon the investigation, and elicited the normal proportions in the composition of the bones, being 49.79 organic and 50.21 inorganic components. Resting on this ground, he declares: there is no congenital rhachitis.

The controversy might be considered disposed of, if GURLT did not explicitly state that the firmness of the fœtal bones was the same as in normally constituted infants. From this statement it would appear that he had examined only fœtus with firmly ossified bones, and that his con-

clusions entirely ignored those in which the bones had been found unusually soft, and even gelatinous. Of these, unfortunately, chemical analysis and microscopic examination is wanting. Hence the question as to the true nature of the difficulty is still open for discussion, and many new facts are to be adduced before its settlement can be reached.

That the disease commences at an early period of foetal life, is evidenced by the facts that OSIANDER observed in a foetus four months old, and AMAND in one of five months, the bones of the extremities distorted and infracted.

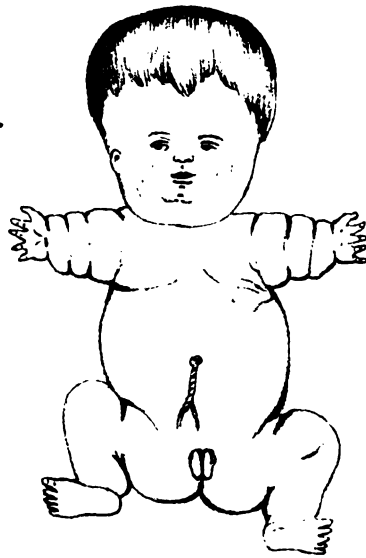
In regard to ætiology, instances of course are not wanting in which the foetal defects are ascribed to pregnant women having been exposed to a terrible sight. Thus MALEBRANCHE and HUYS relate cases in which the mother had been present at public executions. Their offspring had brought along fractures of the thigh, at about the places where the wheel of the executioner had struck the culprit. Other women had met distorted persons in public streets and become thereby impressed. Once the early rhachitis of the mother was considered as a sufficient cause for the inheritance of it by the baby. Syphilis has likewise served as the *pons asinorum*. The case of KLEIN is rather remarkable. It concerned one of twins, the other child being well formed and healthy, though delicate. The constitution of the mother could not have had any connection with the case, since the other child remained intact.

However great the general similarity of all known instances may be, there are, nevertheless, such special differences in the skeleton, more particularly in reference to its firmness, as render pathological differences of the existing morbid process more than probable. Perhaps in some cases true rhachitis may have been at the bottom, whereas in others a mere arrest of development may prevail, and in still others an inflammatory derangement of nutrition may have initiated the lesion. Interesting, in this respect, is the mention made by MECKEL\* of a peculiar instance in which

\*Anatomico-physiological Observations.—Halle, 1822.



**FIG.1.**



**FIG. 2 .**





the forearms of a young man, otherwise well formed, were so short, flat and bent as to simulate rhachitis, of which there was no evidence whatever.—

The case I had the opportunity of examining is derived from a woman *æt.* thirty-four, and multipara. Her first child, aged seven, is strumous; the second exhibits a disproportionately large head and exophthalmus; the third died at an age of one and a half years, of cholera infantum; said to have been a strong boy and afflicted with talipes valgus. The woman is of healthy parentage; the father of the children is addicted to the abuse of ardent liquors. During the fourth pregnancy the mother is said to have been frightened by the aspect of a malformed child whom she met in the street. The quickenings of the *fœtus* are represented as very feeble, and the abdomen as largely distended. On the 6th of April 1867, three weeks before the expected time of delivery, labor commenced, and parturition ensued on the following day by pedal presentation, a midwife attending. The female *fœtus* made but feeble attempts at respiration. Placenta said to have been of unusually large size.

The *fœtus*, Plate I, fig. 1, weighs 3120 grammes, measuring 43 centimeters, of which 17 ctm. belong to the vertical diameter of the head. Whilst in a normal infant the umbilicus divides the body into an upper and lower half, in the present instance the dividing line crosses the xiphoid process. The head is evidently hydrocephalic, the sutures and fontanels are large, nevertheless the bones of the skull are firm. The eyes appear small on account of the prominent cheeks. The nose is flat, tongue protrudes, thorax wide and short, and abdomen prominent. The arms are uncommonly short and the skin is folded; the hands short and broad. There are no external marks of articulation. The flexed limbs are in a similar condition. The adipose tissue is abnormally thick and firm; abdomen filled with fluid.

The second foetus, fig. 2 of the plate, which I chanced to examine, corresponds in every particular with the former. It was the sixth infant of a woman æt. thirty-six, whose former children had all been well formed. While pregnant she had an attack of cholera. The foetus was prematurely born by a few weeks, and gave no other signs of life than a few jactitations.

Autopsy: Integuments thick, subcutaneous tissue copiously filled with a gelatinous material; the same under the scalp; muscles pale, short and membranous; serum in the cranial cavity; brain soft; tongue rather large and protruding; lungs very small and empty; heart likewise small, and as if flattened by compression; thymus uncommonly large. In the abdominal cavity a pretty large quantity of serous fluid; liver slightly enlarged; conspicuous size of the uterus, 1 1-2 inches in length. The skull precisely as in the previous case; spinal column of normal size; clavicles and shoulder blades well developed, the latter however small and soft. No infraction about the

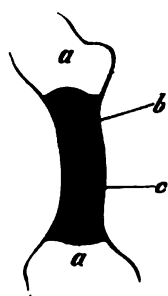


Fig. 9.

(a.) Epiphyses, entirely cartilaginous. (b.) Remnant of medullary cavity. (c.) Diaphysis, completely ossified.

ribs, but enlarged at sternal extremities; pelvis notably small, the upper aperture a transverse oval; antero-posterior diameter 6 lines, transverse 1 inch; bones of extremities considerably shorter and much bent, but *not fractured*; humerus 1 1-2 inches long, forearm 1 7-12, femur 1 3-4, tibia 1 5-12; epiphyses greatly enlarged and entirely cartilaginous, without a vestige of ossification; in the diaphyses the ossific process so far advanced as to diminish the medullary cavity of the femur.

This remarkable result of the anatomical investigation either precluded entirely all suspicion of rhachitis, or the process had already reached the stage of sclerosis in the diaphyses, whilst the cell-proliferation still prevailed in the extremities of the bones.

If such had been the case, the chemical analysis should have elicited a considerable preponderance of the anorganic substances. The examination made by ALEX. MITSCHERLICH resulted in,

Organic substance,	-	-	-	46.25
Anorganic do.,	-	-	-	53.75
				<hr/>
				100.00

consequently proportions almost physiologically normal.

The variously instituted microscopical examinations of both longitudinal and transverse sections of bone presented the following normal texture :

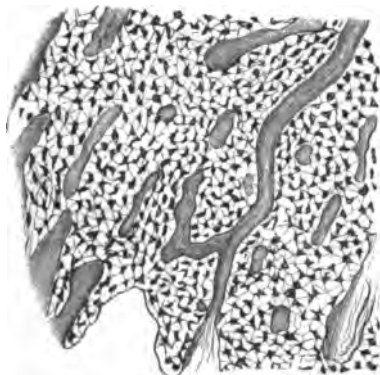


Fig. 10.  
Longitudinal section from the diaphysis  
of the femur.



Fig. 11.  
Transverse section from the diaphysis  
of the femur.

For the present I must content myself with recording the foregoing facts without comment. I am of course not prepared to solve the existing enigma, whether these cases represent the results of rhachitis or mere arrest of development. But neither the chemical nor microscopical examinations lend any strength to the rhachitic theory. Future careful investigations must decide the pending question.

## Reviews and Bibliographical Notices.

*SURGICAL TREATMENT OF THE DISEASES OF INFANCY AND CHILDHOOD.* By T. HOLMES, M.A., Cantab., late Surgeon to the Hospital for Sick Children, Surgeon and Lecturer on Surgery to St. George's Hospital, Surgeon in Chief to the Metropolitan Police, Membre Corresp. de la Soc. de Chirurgie de Paris. Second edition. (London) Philadelphia: Lindsay & Blakiston, 1869. 8vo., pp. 687. Price, \$9.00.

[For sale by the St. Louis Book and News Co.]

The name of Mr. HOLMES is familiar to most of us as the editor of a *System of Surgery*, which is highly prized by all practical surgeons. The book before us well sustains the author's reputation, is full of valuable information, almost a complete work on surgery brought up to the present moment, embracing knowledge at once pointed and exact, discussing causes and conditions only so far as they have a direct bearing on the subject in hand. The work contains thirty-three chapters, divided into three parts. Malformations form the subjects of the first part, injuries occupy the second part, and the diseases—the morbid diatheses of children—the third and last part.

Malformations, says Mr. H., are accompanied by little or no derangement of the general health, unless they involve vital organs. As a general rule, therefore, malformations are as amenable to operative treatment as any other local disease would be. Whatever the nature of the congenital excess may be, whether joined twins, attached fœtus, included fœtal remains, or simple congenital sacral tumors, instances of successful operation are not wanting. In most cases of joined twins, the intestines and genital organs, and sometimes the spinal columns are soldered into one, or the cavities of the chest or abdomen are common to the pair, so that the attempt to sever them would be necessarily fatal. When the bond of union is rather the result of a fusion of the umbilical cords, the attempt to separate them may be made with good prospect of success.

Mr. H., after detailing several interesting cases illustrating the propriety of surgical interference, presents, from BRAUNE, the following striking example: "A young woman presented at birth merely a little swelling near the sacrum. This gradually enlarged, and at the age of three years gave way and allowed a monstrous leg and foot to project, which grew in equal proportion to the growth of the girl herself." A successful operation was performed after her twentieth year.

Again, Mr. H. adds, we have two instances of successful amputation of well marked and large sized supernumerary limbs, two of amputation of tumors of foetal character and attached to the pelvis by a stalk, and twelve of extirpation of tumors of a foetal nature, apparently not so attached, and that in all the cases, except one of the last named, the operation succeeded, while in the fatal case the disease was complicated with spina bifida. Certainly the great bulk of the published cases is very favorable to surgical assistance in these distressing deformities.

Congenital tumors are peculiar in the fact that they frequently disappear spontaneously. Occasionally tumors of this class are stationary for many years and then resume active growth, as also examples of extreme rapidity of progress are noticed.

Mr. H. writes most judiciously on the subject of anæsthetics. He says: "No department of surgery has profited more than that which is concerned with children's diseases. It is very frequently quite impossible to examine a diseased joint, to sound for stone, or to perform any other examination which either lasts long and produces pain, or which requires quiet, without rendering the child unconscious; and the great rarity of accidents from such administration shows that in all essential particulars, chloroform (which is the anæsthetic usually employed) is as safe as it is certainly efficient. It is always necessary to watch the pulse closely, and to give chloroform with great caution to children even when they breathe it quietly, and still more when, from their struggling and crying, the anæsthetic is taken in irregular and often very full doses, usually after such struggles passing almost at once into an insensible condition. Both children and grown persons, when under chloroform, will give indications of pain, while the real feeling of pain (at least if tested by the patient's remembrance of the operation) is quite absent."

I am not aware of any limitation to the use of anæsthetics in childhood. I have administered them at the earliest period of

life, and believe that, with proper care, operations are safer with them than without them, even in the most exhausted and puny infants.

Our author is not a convert to the new methods of arresting hæmorrhage and dressing wounds. "I am afraid that in some quarters I shall be accused of being much behind the age if I confess that I am in favor, as far as present experience goes, of the old method of tying vessels over the new one of securing them with needles, in operations on children. I have never seen any harm whatever from the use of ligatures in childhood, nor any good whatever from the use of acupressure. If the ultimate advantage derived from the use of acupressure is to obviate the secondary complications of wounds, I may say with truth that almost every case which I can remember as dying after operations from any such complications in childhood, has been in excisions where no ligatures have been used, but where large sections of bone have been left exposed in suppurating cavities."

"I have occasionally treated wounds with the chloride of zinc lotion (40 grs. to the ounce), recommended by Mr. DE MORGAN, but I cannot say that I have seen any marked effect; nor can I speak from any sufficient experience of Mr. LISTER's carbolic acid treatment. In fact, the motive which leads to the adoption of these and similar inventions in operations or injuries to adults, is wanting in the case of children, where secondary complications are so rare. In my opinion it is impossible to study too much simplicity both in the dressing and in the after treatment."

Mr. H. adverts to some interesting peculiarities of fractures in childhood:

"There are some bones (such as the patella) which are almost cartilaginous, and are therefore hardly ever fractured. Anatomically speaking, it is, I think, a mistake to imagine that a bone can be permanently bent to any perceptible degree without fracture. The term 'green-stick fracture' is therefore much preferable. The injury is most common in the bones of the forearm, and is perhaps not very unfrequent in the clavicle." "The periosteum appears relatively thicker in childhood than in adult life, and remains untorn, thence it happens comparatively often that the shaft of a long bone is fractured without there being any displacement. This may furnish another motive for treating any case in which there is good reason for suspecting fracture in the

same way as if fracture had been really detected, viz.: by the immediate application of splints."

"Another chief point of difference in children's fractures is that the fracture may separate the shaft of the bone from its epiphysis. Opinions are much divided as to the frequency of this accident, though there can be no doubt of its occurrence. Some surgeons believe that fracture always occurs above the epiphysial line, and is really a fracture of the very lowest portion of the shaft." "The importance of the question about the precise position of the line of fracture is this: if the fracture is really a laceration of the epiphysial cartilage, this structure may be expected to be more or less altered by the inflammatory processes necessary for the cure of the injury. The ossifying tissue may consequently be permanently damaged, and loss of growth may result; on the other hand, if the injury be confined to the diaphysis, no such consequence seems likely to follow."

Congenital dislocation, says Mr. H., is a scarce condition. The only one ever seen by him was of the hip, and is most frequently observed in the female and generally on both sides; it appears to be in some cases hereditary; it is often not noticed until the child begins to try to walk, when the peculiar gait attracts immediate attention. "The affection in well marked cases is almost unmistakable; no other motion is like that which is occasioned by this lesion; it is a rolling motion of the trunk together with double lameness, yet it is painless and rapid."

"The malposition of the bones is probably due in some cases to violence during delivery, and then the term 'dislocation' is applicable in its strictest sense. At other times there can be little doubt that it is less a dislocation than a malformation of the joint-ends; and it is possible that in a few instances it may depend on intra-uterine disease. The main question for the surgeon is, whether the parts are sufficiently perfect to preserve their position if they can be reduced. It appears clear that if the head of the bone is not very deficient, or the case is not one of very long standing, much improvement, and indeed the restoration of a very useful amount of motion, may be anticipated from judicious extension and instrumental treatment. M. PRAVAZ was successful, by a prolonged treatment of more than two years, in the case of a girl, aged seven and a half years. Mr. BRODHURST succeeded, without the prolonged preliminary extension of PRAVAZ, by subcutaneous section of the muscles around the trochanter.

Mr. H. furnishes an important chapter on acute periostitis, insisting that it almost invariably diffuses, and we infer generally complicates with osteomyelitis, from the fact that acute necrosis of the whole bone is so frequently observed. "When the whole bone is loosened, it may in some cases be removed with advantage, even before any new bone has been formed. This is the operation to which the name of subperiosteal resection is really applicable. Some of the older practitioners do indeed teach that the operation should be delayed until the new case is proved to be sufficiently firm to resist the motions of the limb; but this is a doctrine to which less importance is attached now than formerly. But what I mean by subperiosteal resection is an operation practiced on the bone as soon as it appears to be hopelessly diseased, whether loose or not, and before there has been time for the formation of any new case of bone. This operation is only possible, I believe, in cases of acute periosteal abscess, and is then of an extreme facility, at least in many instances. The state of things is as follows: The abscess has been opened and the bone exposed for a fortnight or more. The finger or probe introduced through the opening feels the bone denuded in a great part of its circumference, and this denudation extends for a considerable distance upwards and downwards, possibly as far as the extremities of the diaphysis. If so, there will probably be inflammation of the neighboring joints, complicated with œdema of the lower part of the limb. If a long incision be made down upon the bone through the loosened periosteum, it will be easy to push the membrane away and thus to get the chain-saw behind the bone and divide it. When the whole shaft is affected, the division may be made at any convenient point, and a little twisting will separate the shaft at the epiphysial lines. But if a portion of the shaft is implicated, it must be divided above and below. In the latter case, it is not likely that the line of division by the saw will just correspond with that which nature would have effected, and it is more than probable that the section will run through the dead bone than beyond it, since the periosteum will probably not be separated above the limits of the disease. Hence, in such cases, the dead portions will have to separate during the filling up of the cavity left by the removal of the excised part of the shaft; but the large wound will afford them an easy exit, and they will most likely come away rapidly. If the whole shaft has been removed, nothing is left but for the cavity



to fill up, which in favorable cases it will do rapidly." "The advantages of subperiosteal resection of the shaft of the bone over the expectant treatment are: that it takes away what is a source of very acute and dangerous constitutional irritation, and that it avoids the embarrassment of future operations and the tediousness of the convalescence which follows on the invagination of a large sequestrum." "Some caution must, however, be exercised, for the operation, even in favorable cases, requires a long incision, and must necessarily be attended with a good deal of bleeding; hence it is not to be attempted till the profound prostration which accompanies the early stage of this terrible disease has passed away."

"In all cases, therefore, in which the whole thickness of any bone perishes, whether in the surgeon's opinion the death of the bone has been caused by acute periostitis or not, I would recommend in general the removal of the bone affected as soon as it becomes practicable to separate the periosteum easily from it."

The general practitioner will read with much profit our author's chapter on joint diseases. He says: "It would be hopeless here to attempt anything like a complete exposition of joint diseases. But there is a practical light in which these affections may be viewed quite apart from their pathology or their anatomical characters. I mean the consideration of their actual severity and possible issues. Instead of setting ourselves to consider whether the synovial membrane, or the cartilages, or the bones are the parts chiefly involved, and which should give its designation to the disease, we usually consider in our minds, when called upon to treat a case: Is this an acute affection, likely to terminate in early and intense suppuration, rapid destruction of the joint, and possibly danger to life; or is it a chronic malady, which may in the end impair (perhaps even destroy) the functions of the limb, but is in no degree dangerous to life? In the former case, treatment, to be effective, must be active, immediate, I had almost said instantaneous; and any operation which the surgeon believes to be indicated must be urged on his patient as a matter of life or death. In the latter no such necessity exists. Operations may in many cases be advisable, and their general adoption may restore many persons to activity and enjoyment who would otherwise be condemned to be invalids or cripples all their lives; but such proceedings, it must be distinctly understood, are matters of expediency, and not of absolute necessity.

Diseases of the joints in childhood differ from the same diseases as they occur in adult life mainly in their more chronic nature, and consequently greater curability; and it is surprising how seldom any radical operation is required, and by how simple means recovery is generally procured.

“Acute joint-diseases lead directly, and in childhood almost inevitably, to abscess. Incisions can hardly be made too early if there be much tension and heat. Even if the parts are opened before pus has formed, nothing but good seems to result. This, however, depends upon the urgency of the symptoms. So it is also in diffuse periostitis. In the more urgent cases of that terrible disease incisions cannot be made too early, and if it be possible to incise the parts before pus has formed, so much the better.

“It is when acute abscess is developed within the joint that its operative treatment becomes a matter of anxious thought to the surgeon. At one time there was an almost superstitious horror of opening the cavity of a joint, particularly the knee. Then, as surgeons became aware that limbs might be preserved by treating these abscesses on common surgical principles and laying them open when they seemed to demand it, an exaggerated idea of the success of that practice seemed to prevail. I have no desire to decry it, since I have seen successful results in occasional instances. An argument in favor of this practice is that, if it fails, it does not in childhood necessarily destroy the patient’s prospect of recovery from amputation.”

“In these cases of acute abscess where operation is required, ought excision to be performed or is amputation necessary? Speaking in the first place of the knee joint, I have never ventured upon excision in these circumstances; it seems to me clear that amputation is usually the proper course. The danger to life is not from the confinement of matter, for we have assumed that the joint has been laid open freely enough to obviate all risk on that score. But whilst I have always preferred amputation, I do not deny that excision might succeed in occasional cases of acute abscess of joints—and I have myself seen at least one such case—and even sometimes in cases of prostration after the opening of such abscesses.

“Acute affections of the hip-joint are very dangerous to life, and hardly susceptible of operative treatment beyond early and very free incision; the wound to be washed out freely with some

detergent lotion if the pus becomes foul. Excision seems here less indicated than in the knee. It has certainly the recommendation of giving a freer vent for pus, but at an immediate risk to life. Amputation at the hip would be, I seriously believe, less dangerous in such a case than excision; and I have amputated at the hip twice in affections of the femur after excision of the hip." "The shoulder is remarkably free from inflammatory affections in childhood." "Acute disease of the elbow is, I think, best treated by excision, if the symptoms are urgent enough to demand such a measure. The smaller joints may generally be laid open with impunity and with success, and in many cases careful and early passive motion will preserve some degree, at least, of usefulness."

"The pathological changes in chronic joint-disease are of bewildering intricacy, and they may be united together in a great many different combinations. Perhaps the most common is the ordinary pulpy degeneration of the synovial membrane, which is usually described as 'strumous.' Sometimes the ligaments are the parts mainly affected, giving rise to a sort of spontaneous dislocation spontaneously reducible. Morbid appearances are of course exceedingly common in the cartilages, which are more or less separated from the bones, and portions of them perhaps necrosed and loose. The disease in the bone generally presents itself as superficial ulceration or caries of the articular surfaces, usually testified during life by crepitus when the joint is moved under chloroform. At other times there is a large sequestrum in the joint surface, which is the cause of the whole mischief, and on the removal of which the symptoms will subside. Abscess may form in the substance of the bone near the joint, and bursting into the cavity may disorganize the articulation. Another condition of chronic joint-disease, and perhaps a more common one than we have at present ascertained, is that in which the epiphysis is separated from the shaft of the bone and remains loose in the cavity of the joint as a sequestrum."

"The disease in the large majority of cases has received the name of 'strumous.' I have for some time been in the habit of questioning the propriety of this convenient and common appellation, nor do I believe that in many cases it has any significance whatever. If it be argued that the disease is a constitutional one, and that when removed from one part of the body it appears in another, I would ask does this correspond with actual

experience? This is a very difficult question to answer, and its solution depends, as it appears to me, upon the permanence of the cure which we obtain by the removal of the so-called 'strumous' joints. I once threw together as many of the cases which had fallen within my own practice as I could keep in sight, and ascertained that the great majority—I might say almost all—remained free from any return of the local disease, and in perfect general health. The cases were sixteen in number, and the period which had elapsed since the operation varied from five to one and a half years. There were also five other children whom I had good reason to believe to be alive and well, but about whom I could obtain no exact information. Suppose that we were to assume that chronic disease is generally not strumous at all, but the result of violence or exposure, or some other local cause, should we expect that strumous children would be exempt from it? Would the constitutional cachexy of struma be any protection against the effects of local mischief? Surely it would be the reverse. Surely strumous children would be as much, if not more, liable to chronic disease than their healthier fellows. And is not this exactly consistent with all that we see of chronic joint-disease in its symptoms, its course, its results, and its morbid anatomy? Would chronic disease display this strong tendency to spontaneous cure if it were really constitutional? Would it leave the patient in good general health, and with the ordinary expectations of life? Would sound ankylosis follow in parts softened by strumous inflammation? Would local measures succeed in such cases? Would the disease be under the dominion of such simple remedies? "Nor can I see that any support is given to the theory of the strumous origin of the disease by the results of anatomical examination. The thickened synovial membrane displays the results not, so far as I can see, of any peculiar morbid action, but rather of ordinary chronic inflammation. There is a remarkable absence of tubercle from the cancellous structure of the epiphysial ends of the bones. I think I have only met with two or three instances." "A question of grave importance is, whether the local disease may not often cause the constitutional." "Whatever our views may be as to the pathological question, I think we must all agree that practically we have no such proof of the constitutional nature of any of these chronic joint-affections as should lead us to refuse to entertain the general question of

operative treatment. Individual cases must be judged of by their own symptoms."

"Operations in chronic joint-diseases would be hardly ever necessary, but for the neglect with which this class of diseases is generally treated. In private practice, excisions, except perhaps that of the elbow, are almost unknown, and amputation is very rarely performed, while in hospital practice both are pretty common." "With prolonged and absolute rest most cases of 'strumous' disease of joints will be successfully treated, if taken early enough, while if an attempt be made to treat the disease as a constitutional one, neglecting its local character, the result is almost sure to be bad." "But the rest must be prolonged and absolute; it must be continuous—not interrupted by any periods in which the child is left to himself." "I think it beyond question that if every 'strumous' joint were to be put up in well-filling splints when first seen, and the splints kept on constantly, we should see far fewer cripples about our streets, and find our experience in excision of the knee and hip materially curtailed."

"Besides complete local rest, the other chief remedial measures in chronic joint-diseases are local depletion, counter-irritation, pressure, heat, cold, extension and puncture of the joint. Extension is one of the chief remedial agents in chronic joint-diseases of the lower extremities. I give the preference to the old plan described by Sir B. BRODIE, but which had fallen into disuse since his time, of a weight suspended by a pulley from the foot of the bed. This weight, to be effective, must be sufficient to produce real extension. I have gone as high as twelve pounds, with great advantage in the case of boys about the age of puberty. Before the weight is applied, it is better to straighten the limb under chloroform; in fact this is the best practice in all cases where the joint is in an unfavorable position. There are also instruments for making extension, such as the American splint, devised by Dr. SAYRE, of New York (at least which bears his name), and which we have tried at the Hospital for Sick Children. It is light and easily applied, and by its means it is supposed the child may be safely allowed to walk about. Mr. BARWELL speaks favorably of it, I believe, but I cannot say that in our practice it has been successful."

"Puncture of the joint is a measure which I think is occasionally useful; at any rate, I have found it innocuous to a degree which has surprised me in the case of the knee joint, in which I

have often employed it. Still I cannot recommend it as having much curative power, for I have constantly found the fluid re-accumulate as fast as it has been withdrawn. It is doubtless useful, however, as affording valuable information when suppuration is suspected. It should be performed with a fine trocar, and the puncture closed immediately."

This closes our notice of this very good book,—the work, it seems to us, of a man of large experience, much candor, judgment and courage. Every practical surgeon must read it with pleasure and profit.

E. H. G.

*A MANUAL OF ELEMENTARY CHEMISTRY. THEORETICAL AND PRACTICAL.* By GEORGE FOWNES, F.R.S., late Prof. of Practical Chemistry in University College, London. From the 10th revised and corrected English edition. Edited by ROBERT BRIDGES, M.D., Prof. of Chemistry in the Philad. Coll. of Pharmacy. With 197 ill. Philadelphia: Henry C. Lea, 1869. 12mo., pp. 857. Price, cloth \$2 75, leather \$3 25.

[For sale by the St. Louis Book and News Co.]

This new edition of FOWNES has something of the old familiar look about it, but that is almost all the resemblance it bears to the former editions. With but little qualification it may be said that this is quite a new book,—a new edifice built on the old foundation. The inorganic portion has received important additions, the organic part—the chapter treating of "the carbon compounds"—has been entirely rewritten, and the whole text has been altered to conform to the new theories of chemical combination and the new notation and nomenclature,—altered to such an extent, indeed, that the (not professionally chemical) student of the well-known "FOWNES" of old, on giving these pages a more than cursory glance, will find to his sorrow that modern chemistry is *terra incognita* to him. The book before us is now, without competition, the most thorough and complete compendious text-book of the science in our language.

The stupendous labor involved in this revision, which seems as great almost as that of writing an original work, has been performed by the English editors, Dr. BENCKE JONES and Mr. HENRY WATTS,—names which are omitted from the title-page of the American edition to make room for that of the American editor, who has "added but few notes," and whose chief duty

has been only "to secure the accuracy" of the reprint. This ungracious substitution does not improve the appearance of the title-page, for "handsome is who handsome *does*."

At one time, FOWNES'S was the most popular chemical textbook in our medical schools. We fear that it will not continue to be found so generally in the hands of American students, but will of necessity give way to briefer treatises. We deprecate that it must be so on account of its very completeness and display of detail. But it has another defect—(we have a right to call it so only when considering it from this standpoint)—which makes it less adapted to the medical student: we refer to the insufficiency of that part devoted to animal chemistry, which is compressed into 35 pages, or about one twenty-fourth of the whole. To the chemist, the work in its new form will be more indispensable than ever.

G. B.

**TREATMENT OF LACHRYMAL AFFECTIONS.** By Professor ARLT, Prof. of Ophthalmology in the University of Vienna. Translated, with permission of the author, from the *Archiv für Ophthalmologie, Band XIV.*, by John F. Weightman, M. D. Philadelphia: Lindsay & Blakiston, 1869. 12mo., pp. 30.

This brochure is devoted chiefly to a demonstration of certain points in the anatomy of the lachrymal passages with reference to the establishment of a safe and certain method of probing them in cases of obstruction. Prof. ARLT prefers always to enter the lachrymal sac by way of the slit *lower* canaliculus, and gives minute directions how to accomplish the probing without doing violence to the delicate textures involved. Especially does he urge the utmost gentleness and delicacy in manipulation, "never troubling the patient more than five minutes at a time, and never introducing the probe twice in the same day." He has "sometimes only succeeded in effecting a passage at the expiration of the eighth or tenth day." The injunction to proceed gently and carefully in this really delicate manœuvre has been repeated by almost every surgeon who has written upon the treatment of lachrymal obstructions, and yet it is often neglected, and the method is blamed for the incompetency or carelessness of the operator.

By exercising great care, and with his well-known dexterity in operating, Prof. ARLT is convinced that the cure of the great

majority of lachrymal obstructions may be best effected by BOWMAN's method, using, however, only the four smaller sizes of probes (Nos. 1 to 4), believing that "so great a distention as is produced by Nos. 5 and 6 is neither necessary nor without danger."

Prof. ARLT's experience has been for several years almost wholly with this plan of treatment, and he opposes, as we think justly, the general adoption of the many methods lately advocated which involve free incisions and the use of large probes. With the instincts of a true surgeon, he aims to restore the diseased parts as nearly as possible to a normal condition, and in most cases, where the mischief has not gone too far, he succeeds perfectly. His experience does not, however, help us in the very considerable class of grave and complicated cases, for which he still advocates the destruction of the sac by cautery, an operation which we think destined to be almost, if not altogether, superseded by the dilatation of the nasal duct by means of large styles of silver, as recommended and used by Dr. E. WILLIAMS, of Cincinnati, or, still better, by leaden styles.

J. G.

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1. *ÜBER DEN KAMPF DER HUMANITÄT GEGEN DIE SCHRECKEN DES KRIEGES.* Ein Vortrag von Dr. F. ESMARCH, Prof. etc.. Kiel, 1869.

[*On the Contest of Humanity against the Horrors of War.* A Lecture by Dr. F. ESMARCH, Prof. of Surgery in the University of Kiel.] Kiel, 1869. 8vo, pp. 54. Illustr.

2. *DER ERSTE VERBAND AUF DEM SCHLACHTFELDE.*

[*The First Dressing on the Battlefield.* By Dr. F. ESMARCH, Prof. etc.] Kiel, 1869. 16mo., pp. 23. Illustr.

The author is one of those talented and active surgeons who find full employment in the practical pursuit of their art, and who have neither leisure nor taste for writing volumes. Professor ESMARCH but very rarely exchanges the scalpel for the pen, but then it is always to the purpose, both in form and in object. Very few writers command a greater power of language, and are able to engraft their thoughts in fewer words, penetrate more directly to the subject matter, or turn the latter to more practical advantage, than the author. Of this description was the admirable essay "on the surgical use of cold water," and his remonstrance



against the almighty prevalence of scrofulosis, especially in joint diseases. Of the very same character are the two essays before us.

Inasmuch as the prime minister of Austria hesitates to guarantee lasting peace to the continent of Europe, Prof. ESMARCH is professionally preparing for war. In the first publication, he shows the utter inefficiency of military organizations to meet the professional exigencies of war. Neither Prussia nor Austria had, before the war of 1866, any previous conception that their medical officers so numerous, so well prepared, and specifically educated for their mission, should fall short in rendering the required services on the battle-field, and in hospitals. If that sanguinary war had lasted a year longer, the want of physicians would have been truly serious and disastrous in the extreme to the health and life of the respective armies. Equally deficient in a professional point of view was the American army during the last rebellion. But with that practical tact, promptitude, and energy so characteristic of the American nation, a system of voluntary assistance was matured within an incredibly short time, destined to save many lives, and to render the last hours of the dying comfortable and grateful. It is indeed gratifying to the American to find the services of the U. S. Sanitary Commission so deservedly appreciated by so competent a foreign judge. The author has evidently and carefully traced the action of that benevolent and patriotic association in all its details, and finds many things to admire and worthy of imitation.

And this is the object for which he raises his voice in his first essay. Since there is no security against war, humanity and benevolence should be fully prepared and organized to alleviate its eventual horrors. He insists that the "Malthesian and Genfer" associations should at once reorganize and prepare for their future missions.

In the second little work, Prof. ESMARCH demonstrates very conclusively that a few triangular pieces of muslin or linen, ready in the knapsack of the soldier, might be rendered useful in the "first dressing" of injury in battle. This is exemplified in a very handsome illustration accompanying the work upon a piece of tissue, intended for the very purpose. There are no less than forty figures represented with the most diversified injuries in which it is used with an admirable ingenuity. It serves as a tourniquet to arrest hæmorrhage; as a protection against dust and

dirt ; as a mitella to suspend the arm ; as a suitable bandage to fasten straw or a musket shaft to a broken limb ; it covers the head, shoulder and hand : in fact, it is used everywhere and for every purpose as the first dressing, and well calculated to meet the emergency of the occasion.

These suggestions of Prof. ESMARCH are not new, but they are certainly well systematized, and calculated to be of infinite service to the surgeon on the battle-field. That the author bases his recommendations on practical experience, is self-evident from the warmth and urgency with which he puts them forth to the professional reader.

*FŒTICIDE, OR CRIMINAL ABORTION.* A Lecture introductory to the Course on Obstetrics, etc., Univ. of Pennsylvania. Session 1839-40. By HUGH L. HODGE, M. D. Philadelphia: Lindsay & Blakiston, 1869. 12mo., pp. 44.

A powerful appeal to the members of the medical, legal and clerical professions to exert their influence for the abatement of the crime of fœticide. The pamphlet before us is virtually a third edition of the lecture specified in the title page,—the second edition having appeared in 1854. The learned argument of the lecture, delivered before a class of students, is chiefly directed to prove and impress the fact that the life of the offspring, the “mystical union between our corporeal and spiritual nature,” commences at the time of *conception*, and to crush the common belief of the mass of the community, “that the embryo is perfected at the period of quickening,” and that “when the mother first perceives motion is the period when the fœtus becomes animated.” The subject is thoroughly ventilated in all its other aspects, also ; and this lecture is well calculated to strengthen the honorable practitioner of medicine in his attempts to combat the popular error involved in this crime, so often committed through ignorance of its real meaning, its moral relations, and its probable physical consequences.

## Extracts from Current Medical Literature.

### SURGERY.

14. *The Piecemeal Excision of Nævi.* By FURNEAUX JORDAN, F.R.C.S., Surgeon to the Queen's Hospital, and Prof. of Surg. in Queen's College, Birmingham.

[*British Medical Journal*, May 29, 1869.]

The operation which I have devised for the removal of nævi, and which I first performed in 1863, I have hitherto so imperfectly described, that I determined to bring it before the profession with more completeness, though still with all possible brevity. I am the more induced to do this, because I am frequently interrogated touching the details of the method, and because of its increasing adoption in hospital and private practice.

The operation is performed as follows. An incision is made through the superjacent skin and through the nævus, so as to completely divide it into two halves. Hæmorrhage is prevented by pressure on the adjacent arterial trunks. In the face, for instance, where the operation is most useful, pressure on the facial or temporal or subraorbital, one or two or all, arrests the bleeding. If pressure on the main trunks do not perfectly arrest all hæmorrhage, one or two points of pressure (with a director) near or even within the incision will. I have often been surprised to find that one or two points of pressure alone sufficed to secure a bloodless condition of a nævoid section. The next step is with clawed forceps and scissors (curved on the flat) to remove each half piecemeal, beginning at the centre and proceeding to the periphery. There is not the least difficulty in distinguishing the nævoid (capillary, venous, or arterial) from the healthy tissue. The removal of one half should be completed before that of the other is begun. When the nævus is completely removed, there is no hæmorrhage on relaxing the pressure. As a rule, it is quite unnecessary to remove any skin; even if involved, it recovers after the excision of the subjacent nævus. If very much implicated, an elliptical portion of skin may be taken away, so that the edges of the wound can be so brought together as still to leave only a line of cicatrix. Whether any skin be removed or not, the edges of the wound should be brought together with silver wire, and moderate pressure effected by means of a pad of dry lint and a bandage.

I believe piecemeal excision to be the best operation in all cases where it is desirable to save the skin; and these are the great majority of cases.

Where it is not desirable to save the skin, as in very pedunculated nævi, or where the skin is extremely implicated over the whole tumour, the *écraseur*, or the ligature, or bodily excision, may be preferable. In using the *écraseur* or the ligature, I find that the circular incision to receive the chain or ligature is most easily and evenly and rapidly made with sharp-pointed scissors, one point being first thrust through the skin.

Piecemeal excision from the centre is applicable in the larger number of cases, and especially in the face and eyelids. It is immediate, complete, safe, and leaves only a linear cicatrix. It removes the nævus, all the nævus, and nothing but the nævus.

15. *The Treatment of Carbuncle.* By JAMES PAGET, D.C.L., F.R.S., Surgeon to St. Bartholomew's Hospital.

[*Practitioner*, Feb. 1869; from *Lancet*, Jan. 16, 1869.]

Mr. PAGET has given, in a recent clinical lecture, an admirable summary of his opinion on the treatment of carbuncle. He gives an outline of the general mode of treatment, and criticises it severely. With reference to incisions which are made to prevent the spreading of the carbuncle, he expresses a doubt as to the efficacy of this method in early stages, and has little faith in it after three or four days of the existence of the disease. "I have," he said, "seen carbuncles spread in as large a proportion of cases after incisions as in cases that have never been incised at all. I have in my mind a striking case that occurred to me early in practice when I followed the routine, and a friend of my own divided the carbuncle most freely. I cut it after the most approved fashion in depth and length and width, and then it spread. After two or three days more all the newly-formed part was cut as freely as the first, and then it spread again, and again it was cut as freely. Then it spread again, and was not cut. Then in a natural time it ceased to spread, and all went on well." . . . "On a very strong general impression, however, I say that carbuncles will spread after cutting in as large a proportion of cases as they will spread in without cutting." In reference to the supposed relief of pain by incision, and the alleged acceleration of the healing powers by this operation, Mr. PAGET expresses grave doubts; indeed, in regard to the latter, he distinctly states that the "healing without incisions is very clearly, and certainly a great deal the quicker." In regard to very high feeding and the use of stimulants in large quantities, Mr. PAGET states his belief that this practice is mistaken, and he recommends that the patient be allowed instead only about two-thirds of his ordinary supply of food. His method of treatment is briefly as follows, and consists in doing very little at all. In local treatment, the best thing, he says, is, if the carbuncle be small, to cover it with emplastrum plumbi, with a hole in the middle through which the pus can exude and the fine slough can come away. For a large carbuncle he recommends the common resin cerate: "this should be spread large enough to cover the whole carbuncle, and over it should be laid a poultice of half linseed meal and half

bread." The carbuncles too must be carefully washed with Condyl's fluid, or weak carbolic acid, and the cavities may be syringed out with it. Bark, etc., then may be given, but he thinks needless; opium must be given, especially in the earlier stages, and above all things fresh air and exercise must be allowed to the patient. Mr. PAGET does not think the disease a very fatal one, for out of 400 cases of his own only four died.

16. *Case of Elephantiasis treated by Ligature of the Artery.*  
By Prof. HUETER, Rostock.

[*Archiv für Dermatologie u. Syph.* I. 294; from *Arch. f. klin. Chirurgie* IX. 3. 1868.]

A new case of ligation of the artery in Elephantiasis Arabum is communicated by HUETER. It concerns a girl of 23, whose left lower extremity had gradually attained, from the toes upward, an enormous size, without the supervention of erysipelatosus or lymphangoitic attacks.

Ligation of the external iliac artery was performed by the usual method, leaving the peritoneum intact. Eight hours after the operation, the skin of the leg was soft and could be lifted in folds. Measurements revealed the following decrease in size :

	May 9th.	May 30th.
Circumference, above the malleoli,	46 ctm.	26 ctm.
"    middle of leg, -	52 "	35 "
"    knee, -	50 "	36 "
Greatest circumference of thigh,	71 "	56 "

The diminution in size is still progressing, the patient being still under treatment. .

The operation has been performed in all, including the above case, fourteen times; a cure was attained in nine cases, improvement in three. The arteries ligated in the other cases were: the carotid once (on both sides), the femoral nine times, the tibialis antica once, the iliac twice.

In HUETER's case the wound healed kindly.

17. *The Occlusion of Arteries in their Continuity by Partial Closure with Innocuous Ligature.* By Dr. BENJ. HOWARD, New York.

[*Medical Record*, March 15, 1869.]

At a recent meeting of the Pathological Society of New York, Dr. BENJAMIN HOWARD presented some additional specimens of the series of experiments on which he has been engaged during the past two or

three years, which seem still further to establish the conclusions to which he was partially led by similar experiments reported to the Society in 1867. The common carotids of several sheep were exhibited, which had been tied, some within and some without the sheath, in 1867, with silver wire, so as to diminish the canal to about one-third its normal diameter. In every case pulsation gradually ceased. The wound healed completely by first intention. The general health was not notably disturbed. The arteries were removed in January, 1869. There was found no sign of suppuration or other morbid action having occurred. The ligatures were enwrapped in fibrine, just enough to hide them from view and produce a slightly bulbous appearance. On making longitudinal section of bulbs, the ligatures were found in situ as first placed. The occluding plugs seemed to be more extensive than after the usual form of ligature. Other specimens exhibited showed that all ligatures of any quality applied so as to strangle the arterial coats, whether dividing either of them or not, are removed by ulceration. One specimen was exhibited in which the fibrinous remains of an occluded portion of artery had completely disappeared by absorption. The advantages claimed for the partial closure, by innocuous ligature, in the continuity of arteries, over and above the ordinary light silk ligature, are: 1. *No lesion is inflicted upon the coats of the artery.* 2. *All causes of suppuration are avoided.* 3. *There is no cause for subsequent disturbance of the wound.* 4. *The parts beyond are not deprived suddenly of their accustomed supply of blood, the collateral circulation increasing as the former supply diminishes.* 5. *There is nothing to prevent complete healing of the wound by first intention.* Dr. HOWARD related a case in which he ligated the femoral artery of a patient by this method for popliteal aneurism. The pulsation of the tumor ceased on the third day. The wound, to the line of the integument, was healed on the fifth day. On the tenth day the patient was walking about.

18. *On Varicose Disease of the Lower Extremities, etc.*  
By JOHN GAY, F.R.C.S., etc. (London, 1868.)

[Review in *Edinburgh Med. Journal*, Feb. 1869.]

The author, after a few introductory remarks, gives a careful review of the investigations of other surgeons on the subject under consideration. He proposes that the term "varicose disease" should be used *generally*, and include "(1.) *varix*, or partial and limited dilatation of a vein; (2.) *varicosity*, or its *general* dilatation, with those other morbid changes to which the well-known varicose vein is prone."

"This distinction is necessary, not only because the two forms of disease differ materially, but also because without it the allusions to the veins that are met with in some of the older and abler writers on this subject cannot be clearly comprehended."

Mr. GAY considers that the veins may be divided into three sets: the *super-aponeurotic* or saphenous; the *sub-aponeurotic* or deep; and the *intercommunicating*; and he makes the following propositions in regard to them:—

(1.) That there is in the arrangement of the venous system of the lower limbs, as of other parts, so far as the trunk veins and their principal branches are concerned, a general and constant uniformity of plan or type, and that the deviations from it in any given instances are not so considerable as to constitute in any one an exception to it.

“(2.) That those *branches* which so far deviate from as to be altogether irreconcilable with such typical plan, are supplemental and auxiliary, and will have opened up in all probability from inconsiderable vessels in obedience to some especial exigency of the circulation.

“(3.) That the veins which become varicose are not generally of the subordinate character just alluded to, but ordinary and regular branches which have important offices to fulfil, and become diseased through being overtaxed by excess of functional requirements.”

These propositions, the author tells us, are the result of a careful and comparative study of the saphenous veins and their branches in the healthy and diseased condition.

The anatomy of the saphenous veins and their branches is next considered. Mr. GAY in his dissections has not found the arrangement of the external saphena vein as it is usually figured in anatomical drawings, but he has observed that, having “arrived opposite the junction of the gastrocnemius muscle with its tendon, this vein invariably penetrates the fascia, either by gradually insinuating itself amongst its fibres, or by the provision of a distinct foramen; and from this point to its termination its course is unquestionably *sub-aponeurotic* and occasionally even *intra-muscular*.” “The foramen closely encircles the vein, and often presents against its upper wall a very decided curvilinear edge, whilst the fascia is tough and unyielding, so that any tendency on the part of the vein to yield at this point for the accommodation of a preternaturally swollen current is thereby inevitably counteracted. This foramen and its situation help most materially to account for the occurrence of crural varicosity in a large number of cases.”

In order to determine “the relation of the saphenous system to the muscular, and both to the deep venous system,” Mr. GAY performed several experiments, with the following results:

“*Obstruction of the femoral vein* is followed in succession, according to the order in which the results are given, by—

“(1.) Circumpatellary cutaneous injection.

“(2.) Saphenous repletion.

“(3.) Repletion of the intercommunicating veins.

“(4.) Capillary cutaneous injection along the course of the super-aponeurotic veins, first in the thigh, then of the internal and external saphena in the leg; whilst

“*Obstruction of the internal saphena* is followed by—

“(1.) Repletion of its whole system.

“(2.) Repletion of the veins passing between the saphenous trunk below the calf.

“(3.) Injection of circumpatellary skin; and

“(4.) Of the deep venous trunk in part.”

After performing other experiments, and also making observations on the limbs of prisoners while working at the treadmill, Mr. GAY gives the following conclusions:

"(1.) That the saphenous, in part *nutritive*, is in still greater and more important respect an *appendage*, as a kind of reservoir, with slower moving currents, to the deep venous system, which belongs almost wholly to that department of the vascular system which may be termed *nutritive*; and thus, as Mr. NUNN observes, acts as a safeguard against the contingency of muscular congestion. *For in the venous system there are potentially no retrograde compensating currents as there are in the arterial.* Hence, in all probability, dilatation of the *tegumentary venous radicles* indicates embarrassment of the deep trunk veins; whilst that of the *saphenous branches* points in like manner to obstruction of both superficial and deep trunk veins—of the first *directly*, of the second *indirectly*.

"(2.) That in reference more particularly to the saphenous system, the dilation of the vessels cannot be effected actively and solely by any force evolved by the various agencies directly concerned in carrying on the circulation, nor to the alleged disadvantage of the columnar pressure of the blood.

"(3.) That the relation of the saphenous to the muscular system indicates the source of a force as well as the means of intensifying it, so far in excess of that which the vein-walls can oppose to it as satisfactorily to account for its production.

"(4.) That this result is attained in part (*a.*) through a contingent disadvantage, arising from the fact that the capacity of the saphenous trunks is greatly less than that of the sum of their branches; and for the rest, as I shall hope to make more clear hereafter; (*b.*) through the agency of certain foramina, of which *some—e. g.,* the saphenous, the femoral ring, and the triceps opening—regulate the size of the stream at the points where they preside over it, and in case of overflow intercept the surplus quantity of blood; whilst others—as the facial and intramuscular—act as valves or barriers and oppose its reflux.

"(5.) Blood so intercepted finds its way to, and accumulates in, the saphenous system, where its tension expends itself with varying results. The valved and powerful trunks are able to resist an amount that would dilate their unvalved and feebler branches."

In connection with the subjects of ulcer, as caused by varicose disease, the author says: "It is impossible, I think, to avoid the further inference, that *ulceration is not a direct consequence of varicosity, but of other conditions of the venous system with which varicosity is not unfrequently a complication, but without which neither one of the allied skin affections is met with*—conditions which involve obstruction of the trunk veins, deep and superficial, either from impediments on the venous side, or incompetency on the arterial, or from both causes combined."

After giving an account of the various methods suggested and practiced for obstructing varicose veins, he remarks: "Now, if what has been advanced has any foundation in truth, the principle must be faulty,



inasmuch as it involves the anomalous proposition to cure obstruction by adding thereto fresh obstruction. If then," the author proceeds to say, "varicosity is not to be cured, or perhaps even indirectly relieved, by obliterating or otherwise obstructing the diseased vessels or their trunks, what are we to do? What principles of treatment are we to adopt? I answer, *1st*, that so long as varicose veins are capable of aiding in circulating the blood, though with comparatively trifling efficiency, we must (*a.*) relieve the general circulation of the limb as far as possible from those causes of embarrassment in which their disease originates; (*b.*) preserve the vessels in that state of usefulness to which they may have been reduced, or render them still more useful by giving artificial support to their deteriorated walls; (*c.*) remedy any contingent disorder of the vein, as far as can be remedied; and (*d.*) adopt such general measures as shall have the effect of indirectly imparting strength to its tissues. And, *2d*, (*a.*) in the event of any portion of such vein becoming so hopelessly deteriorated that it can no longer aid in furthering the circulation, especially if it be irremediably painful on or without exercising the limb; or (*b.*) if the vein shall have given way, or appears from attenuation or other conditions liable to burst without forewarning; under either of these circumstances the particular segment or entire branch must be obliterated."

19. *On the Treatment of Nasal Polypi by Powdered Tannin.*  
By W. M. BANKS, Esq., Liverpool.

[*Braithwaite's Retrospect*; from *Liverpool Med. and Surg. Reports*,  
October 1868, p. 114.]

The general practitioner is often consulted, at any rate in the first instance, in cases of nasal polypi. Now, if unwilling to perform the operation of evulsion himself, and equally unwilling to hand over his patient to an operating surgeon, I would suggest a trial of a method of destroying them, proposed by Mr. BRYANT about a year ago. It is well known that nasal polypi are seldom or never single, and that, after having removed all the larger ones with the forceps or wire noose, there is too often a crop of young ones left behind, which soon sprout up and involve a second, a third, and often several operations, before they are all got quit of. Mr. BRYANT hit upon the happy idea of blowing tannin into the nostrils, after the operation of evulsion, for the purpose of withering up the young succulent gelatinous brood, which remain behind; and in this he was so successful, that he also tried it on the larger ones, and with very marked benefit. During the past year, I have used it in a few cases myself, and, in one or two, the effect has been most satisfactory, the polyp having either shrunk away, or actually dropped off, and so the patient has been spared the misery of undergoing a painful and very repulsive operation. A few grains of tannin are simply put into a quill, which is inserted as far as possible into the nostril, and then, with a puff, the powder is blown out over the mucous membrane. This, however, involves the presence of a second person to blow the powder up the

nostril. I have found that this can be obviated by having the tannin put into a hollow india-rubber ball, with a short wide nozzle attached to it. A smart compression of the ball sends the powder flying up the nozzle, and so the patient can employ the remedy himself.

These little implements are now sold in all druggists' and surgical instrument makers' shops, for the purpose of giving small injections. The nozzle of course must come out to allow of the powder being poured into the ball, and the tannin itself should be finely pulverised. The successful cases which I had were in young girls, and I should think that the remedy will act best where the polypi are not of very old standing, and seem to be soft and gelatinous.

20. *Cases of Depression and Replacement of the Superior Maxilla (Langenbeck's Operation).* By Dr. D. W. CHEEVER, Boston City Hospital.

[*Boston Med. and Sur. Journal.* March 1869.]

In the number for March 1868, of this (*St. Louis M. & S.*) Journal, we reproduced the very interesting case of this operation for the removal of a polypus of the nose, reported by Dr. CHEEVER in the *Boston M. & S. Journal*, Sep. 26, 1867. Since then, a second operation has been necessitated by a recurrence of the polypous growth, an account of which is given in our Boston contemporary as above quoted, together with that of an additional case. In the case first mentioned—

Symptoms of recurrence of the growth were noticed after eleven months. The nostril became obstructed as before, and there was a feeling of fulness in the head. Otherwise than this the tumor had caused no inconvenience. There was no appearance of any disease in the pharynx, but Dr. LANGMAID, with the rhinoscope, discovered the fibrous mass occupying its former position and attached, like its predecessor, to the inferior aspect of the body of the sphenoid bone and to the adjacent region of the pharynx.

*Second Operation.*—The steps in the operation for its removal, the operation being performed at once, were almost identical with those of the former one, and the lines of section were in the cicatrices of those of the year previous. Owing, however, to the thickening of the bone in the course of healing, it was necessary to remove a small portion at the inner angle, just below the orbital process, in order to expose the growth. The tumor, which was of the size of an English walnut, was removed by section of its pedicle with scissors, and the bone was thoroughly scraped. The hæmorrhage was not sufficient to require ligatures. The bone and soft parts were apposed as in the former operation; a gutta-percha plug between the teeth and a bandage around the lower jaw, and over the head, aided in supporting the parts.

Convalescence, in this case, was more rapid, even, than in the primary operation. Without complication or drawback, recovery proceeded steadily, and after twenty-seven days he was discharged with the wounds perfectly healed, and the bone firmly in place.

**CASE II. *Naso-pharyngeal Polypus. Operation by Temporary Depression of both Superior Maxillæ.***—The patient was a farmer by occupation, and was 41 years old. He had suffered from the presence of a growth in the posterior nares during the previous eleven years. Its first appearance was attended with profuse epistaxis. Its rapid growth, and the inconvenience arising from its presence induced him to submit to its removal by Dr. PEASLEE, by section of the soft palate, after four years. An interval of health succeeded, in which he noticed nothing of consequence from the tumor; but thirteen months before presenting himself at the hospital he felt symptoms of its recurrence. This recurrent growth had been attended with no pain, epistaxis or other grave symptoms, although the patient was anæmic, and his mental condition was depressed and anxious.

Examination discovered the following condition of things. Externally, the facial expression was unaltered. There was no protrusion about the region of the antrum. Both nostrils were perfectly occluded, one having been closed many months, while the other had remained open until within three weeks. The palate was pressed down by a tumor protruding from the roof of the mouth, of the size of a pullet's egg; its anterior edge extended to within half an inch of the alveolar border. It was elastic, painless, and without special tenderness. In the process of development it had absorbed the palatine process of the left superior maxilla, the edge of the bone defining its border. The pharynx was clear, below the soft palate, but completely filled above.

Deglutition, respiration and articulation were considerably impaired, and complaint was especially made of the difficulty in breathing, the sensation being of fulness and of a danger of suffocation.

**Operation.**—The size of the tumor and its situation in the median region appeared to contraindicate operation on one superior maxilla alone. Temporary depression of the whole upper jaw was accordingly effected, as follows: The primary incision through the soft parts was on either side of the nose along the natural wrinkle from near the inner canthi, around the alæ and through the commissure of the myrtiform fossa of the lips. The flaps were freely reflected, so as to expose the bone beneath so far upward as the malar prominences. With a narrow saw the body of the bone was divided from the tuberosity, forward, beneath the zygoma on each side into the middle meatus. The septum nasi and the vomer were divided with strong scissors. Nothing but the posterior attachments of the upper maxillæ now prevented their depression; and hinging on the pterygoid processes, the upper jaw was brought down so as to expose the tumor. Its attachments were found to be to the body of the sphenoid bone, and to the ethmoid. These attachments, except the first, were divided by the finger, and a section of the growth was made by means of scissors, as near the sphenoid bone as possible, the

mass being too large to deliver altogether. With a gouge chisel the remaining portion was scraped away and removed.

The whole growth was in size and shape like a large lemon. In its centre it contained a cavity with the remains of broken down tissue. Subsequent microscopic examination determined the structure to be distinctly fibrous.

The depressed jaw was restored to its position and retained firmly by silver wire passed on each side through the malar bones. The soft parts were apposed by silk sutures, and the whole physiognomy perfectly re-instated.

The hæmorrhage during the operation did not appear to be excessive, the blood escaping externally being only of moderate amount. The attendant shock was considerable, the pulse falling off at the last until it was hardly perceptible. Stimulants by enema rallied the patient in part, but throughout the day he remained in a drowsy, unconscious state after the effects of the ether had ceased. The condition of the patient was grave from the time of the operation forward. In three hours a diarrhœa developed itself, the dejections being frequent, black, tarry and offensive, as of altered blood. Meanwhile there was no pain or nausea; the patient took nourishment, stimulants and opiates well. The pulse ranged from 128 to 136, and was small, jerky and feeble. The whole appearance was that of a patient sinking from exhaustion. The expression was listless; the skin dry and harsh; the tongue brown and parched. During the forty-eight hours after the operation there was no essential change. The diarrhœa, abdominal pain and general exhaustion continued. The wound in the face remained quiet, without sign of reaction, and there was no complaint of pain in that region. On the third day, after continued efforts at stimulation and at control of the diarrhœa, the patient began to show more favorable symptoms. The dejections became less frequent and more natural in appearance. The mental condition was more sane. Slight suppuration commenced in the wound. The surface was warm and moist, and general signs of reaction became manifest.

On the following day, however, he relapsed into the former state. Jactitation, muscular tremor and mental distress succeeded. The pulse was 124, and very small; the urine was retained and catheterization was necessary. The face and conjunctivæ assumed a sallow hue. Steady sinking proceeded in spite of the stimulants, which from the beginning had been taken freely, and on the afternoon of the fifth day, one hundred and twenty hours after the operation, the patient died.

The removal of naso-pharyngeal polypi, otherwise unassailable, by a temporary displacement, instead of destruction of the superior maxilla, is known as LANGENBECK'S operation.

Performed here, for the first time, in the case described above, it was repeated, successfully, on *the same patient*.

The second patient was treated in a manner novel, so far as we know, the operation including both maxillary bones. Although he succumbed, we cannot but think that there is nothing in the operation itself, which should render it a fatal one. We know, at any rate, that much more

serious mutilation of the jaws and face, in removing cancer, is almost always survived. The hæmorrhage was moderate, and the shock should not be excessive.

Our patient was feeble and anæmic from suffering and abstinence. The pulse was poor from the beginning. He never rallied any higher than the state known as "prostration with excitement."

We should not hesitate to repeat the double operation on a suitable case, unless resort were had to a novel plan proposed by OLLIER, to saw down the nose obliquely from above downwards, and operate through the upper meatus. In this way he removed a polypus weighing six ounces.

21. *Laryngeal Tumor removed by opening the Larynx.* By JOHN L. ATLEE, M.D., Lancaster, Pa.

[*Amer. Journal Med. Sc.*, April 1869.]

F. McK., æt. 15, small for his age, previously a hearty, robust child; became hoarse about eighteen months before I saw him, in September, 1868, and for the last sixteen months he has not been able to speak above a whisper. In August he experienced some difficulty in breathing, and this steadily increased until his nights became almost sleepless. He also lost flesh at the rate of two pounds a week.

When brought to me, he was voiceless, had a croupy cough, his ordinary respiration, quite laborious; pulse small, frequent, and rather feeble; appetite poor, and the countenance pale and indicating distress. The sounds of the lungs were normal both by auscultation and percussion. The difficulty seemed to be entirely restricted to the glottis. I attempted to use the laryngoscope, but the irritability of the fauces and difficulty of respiration made it impossible to obtain a satisfactory view of the parts. A solution of the nitrate of silver was applied to the glottis, but a spasm was excited that terrified the patient greatly and somewhat alarmed me.

directed the father to bring him to me again in a few days, and in the mean time the finger was to be frequently applied to the fauces, so as to accustom them to the presence of a foreign body. When he returned, on the 29th of September, his respiration was most laborious, indeed so very difficult was it that he was evidently about to die very soon for want of air, unless some means soon succeeded in giving him relief. An attempt was again made to use the laryngoscope but unsuccessfully, its presence could not be borne long enough for an examination.

I told the father that it would be best to open the trachea, and insert a tube, through which the boy could breathe freely, and thus regain his strength. After that some means would be found of getting at the mischief in the glottis.

On the 3d of October, I opened the trachea and inserted a tube. At this time he could breathe only by resting his head upon his hands, his elbows upon his knees and leaning very far forward. A mixture of ether and chloroform was attempted to be used by inhalation, but so much spasm of the glottis was excited that it was laid aside. As soon as the

air rushed into the lungs he opened his eyes, put his hand on my arm, and nodded his head, evidently very much relieved. The presence of the tube was readily tolerated, and exhausted by previous loss of rest, he almost at once fell into a deep sleep.

November 17, I opened the larynx in the usual way, the patient being partially under the influence of an anæsthetic. On exposing the interior, masses of abnormal tissue presented themselves at the opening, during the efforts of coughing made to get rid of the blood flowing into the trachea. These were seized with the forceps from time to time and removed. Three portions, the first as large as a small filbert, the others the size of peas, were torn from their attachment to the mucous membrane. The ventricle of Morgagni on the left side seemed filled by this tissue. The whole amount removed would fill a large sized sewing thimble. As determined afterwards, it weighed twenty grains.

After thoroughly cleaning the interior, a stick of nitrate of silver was rubbed thoroughly over the whole raw surface, and the external wound was closed by two harelip sutures and adhesive strips.

The tumor removed, on examination, displayed under the microscope the anatomical elements found in epithelial growths.

I saw this patient on the 21st of January. He had entirely recovered his voice, and was going to school. He had been kept from school for a year and a half on account of the loss of voice. When first seen he was pale, emaciated, and rapidly losing flesh. He had become rosy, robust and weighed 86 pounds, in place of 64. He appeared in every way perfectly well.

## 22. *Cancer of the Tongue; Favorable Effects of the Ligation of the Lingual Artery.* M. DEMARQUAY.

[*Bull. gén. de thérapeutique*, June 30, 1869; from *Union méd.* No. 71, 1869.]

The idea proposed by HARVEY of endeavoring to obtain the resolution of certain tumors by tying the arteries which feed them, is gaining ground in practice every day. We are indebted to M. DEMARQUAY particularly, not for having first applied this method to the treatment of cancer of the tongue, but for having popularized it; he is, in fact, performing the ninth operation of this kind.

The patient aged 40 years, of regular habits, using neither alcohol nor tobacco, and without a history of malignant affections in his family, is affected with an ulceration of the tongue which for six weeks has been giving rise to repeated copious hæmorrhages. Examination of the mouth revealed a tumor which had been appearing for a year, steadily growing, firm, ill-defined, seeming to enclose a hard central node, occupying chiefly the right side and passing beyond the median line. The

isthmus faucium is partly obstructed and deglutition impaired; that of solids is impossible, and the patient, compelled to live on broths and soups, is being enfeebled by insufficient nourishment as well as by hæmorrhages. The latter are very frequent, proceeding without doubt from the deeper vessels, and making their way through the ulceration at the right side and lower face of the organ, which is but the opening of a deep fistula directed obliquely backwards and inwards towards the base of the tongue; this ulceration continually secretes an extremely fetid pus.

M. DEMARQUAY diagnosticates a cancerous tumor; and in the endeavor only to obtain disinfection of the parts and to limit, and arrest the progress of, the affection, decides on ligature of the corresponding lingual artery. This operation was performed the 29th January; in operating, the surgeon met with a suspicious gland, which he took care to extirpate. Next day the tumor commenced to subside; twenty-four hours later, it became circumscribed; the swelling around it had disappeared; the exploring finger feels only a node of the size of a small hazelnut. The patient feels his mouth more free and as if disengaged, and, what is remarkable, the pus secreted has lost all odor.

After a rather alarming recurrence of the swelling in consequence of imprudent exposure to cold, the patient gradually improved; on the 19th February, the incision for the operation had healed, appetite and strength returned, the atrophied tumor remained stationary, the ulceration scarcely yielded a few drops of pus, and all was going on well but for the continuance of the intermittent neuralgic pains of the face, which had commenced with the appearance of the cancer.

23. *On the Treatment of Cancer of the Breast.* By Dr. TH. BILLROTH, Prof. of Surgery to the University of Vienna.

[*Archiv für klin. Chirurgie*, Bd X, Heft 2. 1869.]

According to Prof. BILLROTH (Vienna), surgery would be more successful in coping with the disease, if the knife was earlier and more freely resorted to than heretofore. In the beginning, the disease is local, circumscribed, and susceptible of removal. In spreading, it may involve structures inaccessible to the surgical knife; relapse is then inevitable and brings discredit on the whole procedure. Nor is it at all easy to determine the

limits of the malady by the hardness of the invaded structures, because the microscope often discloses cancerous infiltration without marked change in the consistency of the parts.

Next, it would be better to amputate the entire mammary gland if the cancer shows the least signs of rapid growth. This is not as easy as may appear on the surface, for the genuine structure of that organ is so mixed up with the prevailing fat as to render it almost irreognizable. The local relapse may be determined solely by a lobular fragment left behind. BILLROTH likewise advises to excise every little nodule that may reappear after the operation.

24. *Removal of a Large Stone by Dilatation of the Female Urethra.* By HAZARD A. POTTER, M. D., Geneva, N. Y.

[*Medical Record*, Aug. 16, 1869.]

Mrs. M—, residing at Penn Yan, Yates county, N. Y., has been afflicted about four years with difficult and painful micturition. About four weeks since she consulted me in regard to her case. On examination with a common female catheter, I detected a large stone in the bladder, and determined to remove it by dilatation, if possible. She was placed under chloroform by my friend, Dr. Geo. N. Dox, of this village, and on further examination the stone was found attached to the mucous membrane of the bladder. As soon as the patient was thoroughly under the influence of the chloroform, I introduced a pair of two-pronged dilating forceps into the bladder, and dilated the urethra from *within outwards*. The urethra was readily dilated in five minutes to its full capacity. Gradually lessening the dilation from *within outwards*, I passed a pair of slender forceps between the blades of the dilating forceps, and having seized the stone, released it from its attachment. Having removed the dilating forceps, I passed my fore-finger into the urethra, palmar surface upwards, brought the stone to the urethra, guiding it and pressing heavily downwards with my fore-finger, and drawing steadily on the forceps.

The stone was thus removed in about fifteen minutes from the time of commencing the operation. It is oblong in shape, weighs about one ounce, and is two inches in length by one and one-eighth in breadth. The urethra was not ruptured, and the patient urinated naturally the same night, with very little voluntary discharge of urine at any time since the operation. She has perfectly recovered, with the urethra in its normal condition.

This shows the great capacity of the urethra for dilatation, and that it can be as readily dilated in a few minutes under chloroform as by the long and tedious sponge dilatations spoken of in the books. The dilatation having been commenced from the inside of the bladder outwards was probably the cause of the speed and safety of the operation; and it seems to me that such is the only proper mode of stretching the urethra in these cases.



25. *Cysticercus of the Palm of the Hand.* Communication of M. LAFITTE in the *Académie des Sciences*.

[ *Archives générales de médecine*, July, 1869, p. 118. ]

The case concerns one A. J., æt. 35, who presented himself to M. ANGER for the treatment of a tumor of the palm of the right hand, of the size of a pigeon's egg. Externally the tumor covered nearly all the space occupied by the muscles of the thenar eminence. After the excision, which allowed some serous liquid to escape, a small and pretty hard, opaque vesicle could be drawn forth, containing a small yellow body which, being attached by a pedicle to the internal walls of the first cavity, had been floating in the liquid. By microscopic examination this yellow body was recognized as an animal, ending in a head furnished with an imperforate proboscis, surrounded by hooklets, etc. It proved to be a cysticercus, the *C. cellulosa* of RUDOLPHI and BREINER, which in man produces the *Tænia solium*.

26. *On the Modifications of Limbs after Resection during the Period of Growth.* Note communicated to the *Académie des Sciences*, by M. SEDILLOT.

[ *Archives générales de méd.*, August, 1869, p. 234. ]

On a boy of 13, on whom M. SEDILLOT had resected the head of the femur four years ago, the shortening of the limb, which immediately after the cicatrization of the wound had been but 2 centimeters, was found to amount to 8 cm. By means of exact measurements, S. convinced himself, 1, that the greater trochanter had ascended 4 cm. by reason of an excavation of the brow of the acetabulum in which plays the remaining portion of the neck of the femur developed into the shape of a head of the bone; 2, that the femur, from the greater trochanter to the knee, is 2 cm. shorter than its fellow on the sound side; 3, that the leg has suffered a defect of development to the same extent. The resection of the head of the femur, therefore, seems to have been without influence upon the shortening of this latter bone, since the leg presents a like feature without having been subject to an operation. The want of exercise has sufficed to bring about this relative shortness.

On the other hand, M. SEDILLOT remembers the case of a girl of nine, operated upon by Dr. SAIRE, and seen again fourteen

years after the resection, who showed a shortening of only 15 millimeters,—a proof that the growth of the limb had not been arrested. Such results point out the obscurity of these questions and the necessity of submitting them to more thorough study.

27. *On Amputation of the Thigh by Separation of the Lower Epiphysis.* By GEORGE BUCHANAN, A.M., M.D., Surgeon to the Glasgow Infirmary, Prof. of Anat. in Anderson's University, etc.

[*Lancet*, January 1869.]

In cases of injury or disease demanding amputation in the lower part of the thigh, the operation known as "Carden's" is generally admitted to give the best results, both as regards safety and the shape of the stump. My own experience, especially during the past two years, in which I have operated many times, is decidedly in favor of that method when practicable.

But I desire to call attention to a method of dividing the bone in patients under puberty, which I have practiced most successfully in two cases, and which I intend to adopt in all similar instances.

CASE 1. A boy, aged ten, had his leg crushed by machinery close up to the knee. I performed amputation by a long anterior flap. After I had cut through the soft parts, I drew the knife round the condyles to divide the periosteum, where I meant to apply the saw, when I found that it passed into the soft cartilage separating the inferior epiphysis from the shaft of the femur. I laid aside the knife, and by using gentle force easily broke off the epiphysis, leaving the shaft with a rounded end, in which neither cancelli nor medullary cavity were exposed. The wound healed with great rapidity, and it was the most perfect stump I ever saw.

CASE 2. A boy, aged twelve, was admitted under my care in May, 1868, with disease of the knee-joint. Treatment failed to arrest its progress, and in the beginning of October there was evidence of degeneration of the cartilages. Amputation was imperative. The operation was performed in the same way as in the last case; this time the separation of the epiphysis being kept in view from the first. A large anterior flap was formed by entering the knife at the condyle, extending a straight incision about three inches perpendicularly downwards, then making a semilunar sweep in front of the tubercle of the tibia, and carrying the knife in a straight line to the condyle opposite the point of entrance. A semilunar posterior flap, half the size, was then made. The knife was then drawn round the cartilaginous interval between the shaft and the epiphysis, and sunk into it a short way. By now pressing my thumb-nail into the groove thus made, I had no difficulty in breaking off the lower epiphysis, leaving the shaft of the femur with a rounded end, in which neither cancelli nor medullary cavity were exposed. The femoral artery was effectually secured by torsion, as also three small vessels. The edges of the wound were brought together by silver sutures. The patient was placed in bed, with the stump resting on a pillow, no dressing of any

kind being applied, as is my usual practice in managing with such cases. The stump promises to be as perfect as in the last case.

Three advantages seem to me to attach to this plan, which is applicable to all cases of amputation of the thigh in patients under puberty.

1st. The shape of the end of the bone renders the stump exceedingly favorable for the adjustment of an artificial leg.

2d. The end of the bone, being rounded, nodular, and smooth, needs little, if any, alteration by reparative processes during the cure.

3d. The risk of purulent absorption and pyæmia, which always attends the exposure of the cavity of a bone, whether cancellated or medullary, is in this form of amputation absent, so far as the bone is concerned.

I therefore commend this operation to the attention of practical surgeons in operating on patients under puberty.

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#### VENEREAL DISEASES.

#### 7. *Syphilitic Diseases of the Throat.* Extract from a paper read by Dr. MORELL MACKENZIE before the Medical Society of London.

[*British Medical Journal*, May 29, 1869.]

The paper was divided into the two recognized divisions of Secondary and Tertiary Syphilis. In the first, Dr. MACKENZIE considered erythema, superficial ulceration or erosion, deep but non-spreading ulceration (a very rare manifestation of secondary syphilis), condylomata, and, as accidental and occasional sequelæ, elongation of the uvula, enlargement of the tonsils, and cauliflower excrescences and fibroid nodules in the larynx. Of 42 consecutive cases examined at the Hospital for Diseases of the Throat, the pharynx was diseased in 23 cases, the larynx in 16, and pharynx and larynx in 3. Dr. MACKENZIE considered that the tendency of all secondary congestions and erosions was to heal spontaneously. This healing was, however, considerably expedited, when the disease was manifested in the throat, by the application of solutions of mineral astringents, especially of perchloride of iron—one drachm of the salt in an ounce of water, but not of nitrate of silver. For condylomata and mucous tubercle, tincture of iodine was most suitable. Dr. MACKENZIE had not found secondary mucous tubercles, etc., in the larynx, whence once relieved, at all liable to recur, or nearly so liable to recur in the pharynx as in the anus. In the pharynx, they were very apt to degenerate into rather deep unindurated ulcers of grayish color, differing from mere erosions, and from the deep sluggish ulceration of secondary syphilis. Dr. MACKENZIE had never found mercury or any other constitutional remedies necessary in secondary affections of the throat. The erythematous eruption generally disappeared spontaneously, after a few weeks, if not sooner; if, however, it were at all obstinate, great benefit might result from warm stimulating inhalations, especially of kreasote

and oil of woodpine. Fissures were best treated with solid nitrate of silver fused on to a slender rod of aluminium. Of the sequelæ, the fibroid nodules and cauliflower excrescences were very difficult to treat. An occasional sequela was paralysis of the muscles, especially of the adductors of the vocal cords; often unattended by any superficial hyperæmia. In *tertiary syphilis*, deep, rapid, and extensive ulceration was the most common characteristic. Gummy tumors were frequently developed in the pharynx, and occasionally in the larynx, and the muscles and nerves might suffer either directly or indirectly. There were also found primary and secondary disease of the cartilages with secondary œdema; and, as a result, permanent narrowing of the air and food-passages. In tertiary as in secondary syphilis, the pharynx was more frequently affected. In 51 consecutive cases at the Hospital for Diseases of the Throat, the pharynx was affected 33 times, the larynx 15, and both parts only 3 times. The pharynx was attacked at an earlier period than the larynx. The ulcers may either occur without any evidence of previous morbid deposit, or they might be the result of the softening of gummy tumors. The pharyngeal ulcers were generally covered with a thick tenacious secretion, and had thickened perpendicular sharply cut edges. Dr. MACKENZIE had under his care, in the London Hospital, a patient from whom the transverse portions of the body of the second and third cervical vertebræ had been extruded, with much hæmorrhage—it was believed from the vertebral artery. In the larynx, the arytenoid cartilages had been in several cases necrosed and expelled. The symptoms of these lesions were dysphagia, dyspnœa, and dysphonia. The dysphagia was of two kinds—1, a mechanical difficulty or obstruction; and, 2, pain without obstruction. The dyspnœa arose from chronic thickening, cicatricial narrowing, or chronic or acute œdema. The narrowing caused by cicatrization of tertiary ulcerations often rendered tracheotomy necessary. The patient should be told that he must wear the tube permanently. Gummy tumors were generally found in the tongue and palate; in the pharynx, their most frequent site was the posterior wall; and in the larynx, the epiglottis, the arytenoid cartilages, and the ventricular bands. They were either absorbed, or softened and degenerated into ulcer with thick walls. The diseases of the muscles and nerves met with in the later forms of constitutional syphilis, were due either to the destruction of tissue, or to the results of cicatrization and subsequent absorption, or to the deposit and softening of gummy tumors in the muscles or around the nerves, or finally to interstitial myositis. Syphilitic perichondritis in the larynx was very rare. He had met with three cases only of pure perichondritis, originating primarily in the cartilage. Dr. MACKENZIE exhibited several elaborated colored drawings to demonstrate the differential diagnosis between syphilis, phthisis, and cancer in the larynx. The following were the principal distinctive features. 1. *General Character*.—*a*. In *Syphilis*, the ulceration is generally extensive, and may take place without much thickening: loss of tissues is its distinctive sign. *b*. In *Phthisis*, a more or less uniform thickening is the principal characteristic; this thickening always precedes ulceration. *c*. In *Epithelial Cancer*, there is

generally a very great amount of irregular thickening and displacement. 2. *Site*.—*a. Syphilis* most frequently, and first, attacks the epiglottis; and there are signs of former ulceration in the pharynx. *b. Phthisis* most frequently, and first, attacks the neighborhood of the arytenoid cartilages, where it produces pyriform swelling; when it attacks the epiglottis it generally produces thickening, and the subsequent ulceration is often of a worm-eaten character. *c. Epithelial Ulceration* generally attacks the posterior surface of the arytenoid cartilages and the corresponding wall of the pharynx. 3. The *Secretion* from the various ulcerations is distinctive. In syphilis, it is thick, yellow, and very tenacious. In phthisis, it is thinner, and frothy. In cancer, the secretion is scanty, except in a very advanced stage. The previous history, present constitutional condition, temperature, pulse, and state of the lungs, also greatly assist in forming an accurate opinion. The treatment of the ulceration of tertiary syphilis consisted in cleansing the ulcers with a dry, stiff, but soft camel's hair-brush, and then applying a very strong solution of nitrate of silver; or, better still, the solid nitrate fused on to aluminium rods. In protracted cases, a change of local treatment was often advisable. He frequently, in such cases, substituted copper for silver, as a local application. In addition, he administered iodide of potassium in ten-grain doses, in combination with ammonia, and largely diluted. He considered the local treatment in these cases of the very first importance; without it, in spite of the most able constitutional treatment, it was often impossible to arrest the disease.

8. *Case of Orchitis Gummosa*. By Dr. HUBER, Memmingen.

[*Deutsches Archiv für klinische Medicin*. VI., p. 104, July 1, 1869.]

Dr. HUBER reports the case of the patient L., æt. 54, who consulted him in December 1868, for a swelling of the right testicle, which some physician had pronounced cancerous.

Patient is of bony frame, very lean, skin pale, face and hands showing large, diffuse, brown pigmentations, interrupted here and there by spots devoid of pigment. No abnormalities in general functions.

The right testicle, inclusive of integuments, is almost of the size of a duck's egg, hard to the touch, perfectly insensible, a little irregular in outline; towards the inguinal ring especially a bluntly conical process is observed. Skin of scrotum posteriorly and laterally movable; on the anterior surface of the organ a shallow ulcer is found, about 2 centimetres wide by 6 cm. in length, covered with half dried pus and shreds of charpie; at one place in the ulcer is seen a cheesy-looking spot the size of a lentil. Spermatic cord short, thick, soft; vas deferens cannot be felt distinctly, neighboring glands perfectly free. The left testicle the size of a pigeon's egg, apparently normal. The ulcer has existed only during the last months.

The history of the case (part of which was not obtained until after castration) reveals that 10 years ago the patient had an ulcerated induration on the back of the penis, which was treated by a homœopath; soon after the right testicle swelled, the swelling being taken for hydrocele. Several years later he suffered an attack characterized by weakness of the left extremities and anæsthesia of the left half of the face. Often suffered from gastric derangements and rheumatic pains. The present tumor has been observed for four years, and was always painless. Patient is married a second time; all the children of the second marriage have died very young.

As the anamnestic features pointing to syphilis were not made known till later, a clinical diagnosis was impossible. The tumor possessed none of the characteristics of medullary cancer, and the harder varieties of cancer are hardly ever observed in the testicle. Castration was performed Dec. 9, 1868, the cord ligated in toto. About the end of January the wound had nearly healed, the patient improved in appearance.

Prof. ZENKER reports on the specimen as follows: The macroscopic as well as the microscopic behavior of this testicle so entirely agree with the description of syphilitic orchitis given by VIRCHOW (*Geschwülste*, II., p. 432), that not one feature is found wanting, and the two macro- and microscopic illustrations 172 and 173 look as if they had been made from this preparation, etc.

The author adds: "Important is the presence of the ulcer, the occurrence of which in sarcocoele gummosa is doubted by VIRCHOW, but which is easily explained by friction against the coarse, rural fabrics of the clothes. It surprised me to find in the preparation no trace of a vas deferens. I believe that the condition of the latter may be used for the clinical diagnosis of the gummy tumor from tubercle of the testicle."

9. *On Dressing Chancres with Powdered Camphor.* By M. CHAMPOUILLON, "*Médecin-major de première classe.*"

[*Bulletin gén. de thérapeutique*, 15 June, 1869, p. 526; from *Recueil de méd. et chir. militaires.*]

M. CHAMPOUILLON says: Camphor in powder is the local remedy which, for eleven years, has given me the best results in the treatment of "primitive" chancre, whether soft or indurated,

phagedænic or not. It is, indeed, sometimes contra-indicated, but that depends on the site of the ulcer rather than on its character.

The first effect of the application of camphor is to produce, twenty-four hours after the first dressing, a light rosy tint of the surrounding tissues and borders of the chancre. Even the base of the ulcer seems already less gray. The days following, the borders become lower, inclining towards the centre; the pain, if there was any, diminishes; the chancre is rapidly cleaning, and it is rare that at the end of five or six days the base is not of a lively red, passing into the rose tint of the borders.

Cicatrization frequently takes place in ten or twelve days in ordinary cases. If the ulcer is large, if there is any phagedæna, if the constitution is bad, there will no doubt be delay, but the appearance of the chancre will nevertheless improve very rapidly, and in a manner sufficiently evident to be appreciated by the patient himself. It seemed to me that the camphor dressing lessened the occurrence of bubo. I am not in possession of statistics to prove this opinion, but I have always remarked that, upon entering on a new station, I there found more suppurating bubos than some time afterward, when the camphor dressing had become the ordinary method of treating chancre. Perhaps this was owing to the fact that the cauterization with nitrate of silver, being rarely necessary, was less often practiced.

The chancres best adapted to this application are those of the fossa and of the upper part of the glans, and those of the internal face of the prepuce, when the latter habitually covers the glans. This latter condition is important. Those of the meatus and its margin, the prepuce, and the body of the penis, also do well, but as the camphor remains dry, cicatrization is slower, and it may be advantageous after a few days to apply aromatic wine. In fact, in these latter cases, the camphor only improves the appearance of the ulcer, cleans it, and prepares it for quick cicatrization by the aromatic wine.

The mode of application is simple. The ulcer, well exposed, is entirely covered with very finely powdered camphor, and the prepuce is drawn over into its place with the necessary precautions, so as not to rub away the camphor before it. Twice a day, a small quantity of the powder is added without removing the previous dressing, which then forms a moist paste that I consider

quite favorable to a rapid cure. Even the next day it is not necessary to remove this paste, which is taken away only every second or third day, when it is desired to examine the condition of the chancre.

10. *Subcutaneous Treatment of Bubo.* By Dr. WERTHEIM, Vienna.

[*Brit. Med. Journal.* July 3, 1869; from *Wien. Med. Wochenschrift*, Nos. 85-87, 1869.]

Dr. WERTHEIM reports thirty-two cases of virulent bubo, congestion-abscess, hydrocele, and ganglion at the wrist, in order to prove the advantages attending a plan of treatment which consists in the removal of the accumulated fluid through a small trocar, and subsequent injection of some medicated fluid. The introduction of tincture of iodine, and of other agents hitherto employed for injection in similar cases, is believed to be prejudicial in cases of congestion-abscess, as these frequently irritate and set up inflammation. The solutions used by Dr. WERTHEIM are the following: Hydrochlorate of morphia, gr. iv to ʒij of distilled water; camphor. ʒi. rubbed up with ʒij of mucilage of gum-arabic and ʒiv of water, and filtered; creasote water; sulphate of copper, 1 or 2 grains to ʒi of distilled water; and chloride of lime (1 to 5 grains in ʒi of water). An exploring-needle or small trocar is first passed into the tumor, the fluid contents of which are then forced out by gentle manual pressure; then, by means of the hypodermic syringe, ten drops of the solution of hydrochlorate of morphia, or twenty drops of one of the other solutions, are slowly introduced. During the after-treatment, the tumor is repeatedly emptied of its secreted fluid by pressure; and the injection is repeated, at first daily, and subsequently less frequently. Ice-compresses are applied over the swelling, and the patient recommended to keep to his bed. Dr. Wertheim has derived the following results from his extensive experience in this method of treatment. 1. It is followed by an immediate cessation of the pain previously existing in the tumor. 2. There is also a permanent decline of all other symptoms of inflammation; in no instance were local or general symptoms of reaction observed to follow the treatment. 3. A thick purulent fluid is converted into an exudation which becomes more and more watery, and the quantity of which gradually diminishes up to the end of the third or fourth week, when there is complete absence of secretion, and healing without a scar. 4. The swelling should not be punctured and injected, unless there be full fluctuation; otherwise infiltrations, which disappear very slowly, will remain behind. In conclusion, Dr. WERTHEIM states that the subcutaneous treatment seems to be indicated in cases of fluctuating bubos, and of recent and mature congestion-abscesses, as in those instances where failure occurs, this result is soon rendered evident, and the practice of incision can afterwards be resorted to.



11. *Injections of Chlorate of Potassa in the second stage of Gonorrhœa.* By PASCUAL CANDELA Y SANCHEZ.

[*Schmidt's Jahrb.* CXLII, page 285; from *El Siglo Méd.*, May 1868.]

The author recommends chlorate of potassa in cases of gonorrhœa, the acute stage of which has passed. The use of the remedy is quickly followed by abatement of the symptoms and always radical cure, provided its employment is continued for several days after the discharge has ceased. In chronic gonorrhœa, the so-called *goutte militaire* [gleet], a cure was sometimes effected; but the remedy no less frequently was unsuccessful in this form. C. directs one injection of the solution of the salt, 1 in 30, to be made morning and night, and after four days two injections at each of these times, in the ordinary manner, continuing for at least ten days, until the discharge has entirely ceased. The chlorate of potassa rarely incommodes the patient; very few only experienced a slight burning sensation. If decided improvement does not soon follow these injections, the author directs injections of *aqua vegeto-mineralis* [composition not stated, TR.] in the intervals.

OPHTHALMOLOGY.

3. *Extraction of Cataract.*

The past year has been marked by continued discussion upon this subject, most European operators advocating, for senile cataract, the method of "Modified Linear Extraction," as practiced by Prof. VON GRAEFE. Since our résumé of recent papers on cataract extraction (Vol. V., N. S., pp. 174, et seq.), Prof. KNAPP has published (*Medical Record*, New York, May 1, 1868, and *Archiv für Ophthalmologie*, Band XIV, Abth. 1), the statistics of a second hundred cases of extraction by this method, with the following results:

perfect success,	86	per cent.
imperfect " "	12	" "
failures,	2	" "

These results were noted at the time of the patients' leaving the hospital, which is as late a determination as it is possible to make in the case of a large proportion of the patients who come

to a clinic for operation. Some of these cases undoubtedly improved very much after leaving the hospital, but it is quite possible, also, that a few promising cases may have done badly. It is hardly fair, therefore, to correct these figures, as KNAPP has done, by assuming probable results in the place of those actually noted, especially as the chief use of such statistics is to enable us to compare different methods in the hands of different operators.

The tide of opinion in favor of "Modified Linear Extraction" is apparently still rising. At the meeting of the Heidelberg "Ophthalmologische Gesellschaft" for 1868 (*Boston Medical and Surgical Journal*, Oct. 8, 1868), Dr. HEYMANN, of Dresden, reported thirty-four (34) cases with six (6) per cent. of total losses. Dr. MOOREN, of Düsseldorf, reported three hundred and sixty-four (364) cases with three (3) per cent. of total losses. Prof. ROTHMUND, of Munich, reported one hundred and eighty-six (186) cases with nearly four (3.8) per cent. of total losses, while in three hundred and ninety-six (396) cases in which he had performed flap extraction the total losses equaled twelve (12.2) per cent.

During the past year a controversy has been opened between Prof. VON HASNER and Dr. JACOBSON, upon the value of the statistical results published by GRAEFE and others as bearing on the question of the relative advantages and disadvantages of "modified linear" and the ordinary "flap" extraction. Prof. VON HASNER adheres firmly to the old operation, and claims that, in skillful hands, the failures are not more numerous than by the later methods. This, if true, and it is probably not very wide of the truth, would seem to settle the question in favor of flap-extraction, were it not that the latter operation, in *unskilled* hands, is confessedly attended with greater risk. The great interest which is now manifested in this subject cannot fail to lead to most valuable results, even though the new operation may not, in the end, altogether displace the old.

4. *On the Use of Artificial Light in Certain Operations on the Eye.* By Prof. H. KNAPP.

[*Archiv. für Ophthalmologie, Band XIV, Abt. g. 1.*]

Prof. KNAPP now employs artificial light in a darkened room, in all cases of needle operations for secondary cataract, and, in general, in all cases in which the previous examination by artifi-

cial light gives a clearer view of the parts than is afforded by ordinary day-light. In ordinary cataract operations and operations upon the iris he uses the artificial light only in bad weather, but in operating upon capsular opacities, always.

The mode of illumination is the well-known method by *oblique light* concentrated by means of a convex lens of two or more inches aperture and six or seven inches focus, and directed by an assistant upon the part to be lighted up.

The utility of this improvement is unquestionable.

5. *On a New Operation for Pterygium by Double Transplantation.* By Prof. H. KNAPP.

[*Archiv für Ophthalmologie, Band XIV. Abt'g. 1.*]

The transplantation of the point of the pterygium, turning it from its original direction and placing it in a position below the cornea, where it cannot interfere with vision, is not always applicable to the more extensive growths. Still less can such large pterygia be treated by excision, for the extensive loss of conjunctiva inevitably leads to the formation of cicatricial bands which restrict the movements of the eye-ball. Prof. KNAPP's improvement upon the method of DESMARRES consists in dividing the pterygium longitudinally through its centre and transplanting the two halves in opposite directions. The surface from which the pterygium has been dissected is covered by dissecting the conjunctiva somewhat freely from the sclerotic above and below the wound, and bringing the margins together by sutures.

6. *New Test-Letters for Facilitating the Detection of Astigmatism.* By ORESTES A. PRAY, M.D., of Brooklyn, N. Y.

[*From unpublished Transactions of the American Ophthalmological Society for 1869.*]

The untimely death of this excellent and talented young physician, under peculiarly distressing circumstances, lends a melancholy interest to this, his first and, we believe, his only contribution to Ophthalmology. Himself the subject of astigmatism, he studied carefully the various methods proposed for its investigation, and has produced a test which is a very valuable addition to those previously in use. It consists simply of bold

black letters, about two inches in height, engraved and printed in stripes of twelve different degrees of inclination. The letters are of uniform size and character, and correspond nearly to No. C of SNELLEN'S Test-Letters. The test is extremely delicate, detecting very low grades (1-120 or less) of astigmatism, and its application is wonderfully simple and convenient. The patient has merely to look at the card of letters, hanging upon the wall of the room, and designate by name the particular letter in which the black and white stripes appear most distinct. The test is precisely the same in principle as several already published, but it is of far easier application.

Dr. PRAYS' tests are published in a separate sheet by Wm. Wood & Co., of New York, and in London by Renshaw, in connection with Mr. LAWSON'S new work on the "Diseases and Injuries of the Eye."

7. *On the treatment of the three most troublesome forms of Purulent Ophthalmia.* By GEORGE LAWSON, F.R.C.S. Surgeon to the Royal London Ophthalmic Hospital, Moorfields, and Assistant Surgeon to the Middlesex Hospital.

[*Practitioner*, December, 1868.]

The hints for treatment contained in this paper are so judicious, the subject so important to every practitioner of medicine, and the necessity for prompt and efficient treatment so urgent, that we reproduce it almost entire, in the belief that we can not offer more valuable or acceptable matter to our readers.

PURULENT OPHTHALMIA OF NEWLY-BORN INFANTS is one of the most important diseases which the surgeon can have under his care. When rightly treated it is one of the most remediable; but when neglected, or what is often worse, when unsuitable and improper remedies are used, it is one of the most disastrous of all the inflammatory affections of the eye. The responsibility of any one undertaking a case of purulent ophthalmia, who is not thoroughly acquainted with its nature and treatment, is very great. Many a useful life has been blighted in the first month of its existence by irreparable blindness, which might have been prevented, if the simple means, which seldom fail to arrest this formidable disease, had been rightly applied. The treatment of purulent ophthalmia ought to be almost a "household word," for it is cheap, simple, and within the grasp of all. It is, however, by many totally unappreciated, and by unsuitable applications the progress of the disease is often favored, and eyes are lost.

*Treatment.*—The indications for treatment are to wash away the discharge from the eye as often as it collects, and to use some astringent lotion to arrest the re-secretion of the purulent matter. Lotions of alum, or of sulphate of zinc and alum, and drops of nitrate of silver, are the most useful astringents in purulent ophthalmia. The lotion which I generally use is one of *aluminis gr. vj ad aquæ ℥j*. The mode, however, of applying the remedies is of as much importance as the remedies themselves. The lotion should be gently squirted into the eye with an india-rubber syringe with an ivory nozzle, or with a small glass syringe, every half hour or hour, according to the severity of the case, the object being to thoroughly cleanse the eye from all discharge as often as it is re-secreted. This treatment should be pursued by night as well as by day. The intervals between the use of the lotion may be increased, as the discharge decreases in quantity. The carrying out of these instructions should be entrusted solely to the nurse, as the mother so soon after her confinement is unfitted for the duty, and rest is also essential for her in order to insure a due supply of milk for the child. [The health of the mother, and her ability effectually to suckle the child, are most important points for the Surgeon's consideration, for the real danger of this disease consists, not in the profuse discharge, which so much alarms the uninformed, but in the liability of the cornea to undergo extensive *ulceration*. To attempt "bringing up by hand" a feeble infant affected (or threatened) with such ulceration is to doom the eye to almost certain destruction. —Dixon.] The easiest way of applying the lotion is as follows: The nurse should lay the child her lap, turning its head a little to one side or the other, according to the eye she is going to wash out. With the thumb and finger of her left hand she gently separates the lids, whilst with the right hand she squirts a stream of the lotion into the eye from the nasal side, allowing it to run away from between the lids on to a soft napkin which she has placed under the child's head to receive it. If the case is very severe the surgeon should see the child once or twice a day himself, and having first washed the eye thoroughly from all discharge with a stream of cold water, he should drop into it two or three drops of a solution of nitrate of silver, *gr. ij, ad aquæ ℥j*, and order the alum lotion to be continued as directed during his absence. In some cases where the nurse is very awkward and can not rightly use the lotion with a syringe, it may be efficiently applied by means of a soft camel's hair brush. From time to time a little unguent. cetacei should be smeared on the edges of the lids to prevent their gumming together.

[It will generally be found preferable to cleanse the eye by means of a small stream of water squeezed from a soft sponge, than by the use of the syringe as recommended by the author. The objection to syringing depends on the danger of spattering, by which the highly contagious discharges from the diseased eye may be conveyed to the eye of the surgeon or nurse.—J. G.]

**PURULENT OR CONTAGIOUS OPHTHALMIA.**—It has been called also *Egyptian Ophthalmia*, from its being ever present in Egypt, where the most severe types of the disease are to be constantly found. The characteristics of this disease are that it is purulent and contagious. In its mild form it closely resembles catarrhal ophthalmia, for which indeed it may be mistaken; but in the worst cases it almost equals in severity the gonorrhœal affection of the eyes. The peculiar tendency of purulent ophthalmia is to attack masses of people who are congregated together, and living without due attention to cleanliness and ventilation. Hence it is that this disease has frequently broken out among soldiers in barracks: amongst the poor in workhouses, and in large pauper schools in the country. Although purulent ophthalmia is undoubtedly propagated by inoculation, yet there is abundant evidence to show that it may be epidemic, and spread without any direct conveyance of the purulent secretion from eye to eye.

**Treatment.**—In all outbreaks of this disease sanitary precautions should be at once taken to prevent it spreading, and the bad cases should be kept apart from the others. A daily inspection should be also made of those who are living in the same community, in order to treat each fresh case as soon as the early symptoms show themselves. A mild case of purulent ophthalmia may be treated with a lotion of *aluminis gr. iv ad aquæ ℥j*; or with *zinci sulphatis gr. j, aluminis gr. iij, aquæ ℥j*: which should be used every two or three hours, the patient taking care that with each application a little is allowed to run into the eyes. In the intervals between using the lotion, the eyes may be frequently bathed with cold or iced water, to keep them free from discharge. A solution of nitrate of silver, *gr. j or gr. ij, ad aquæ ℥j*, is very useful, and especially in those cases where there is much chemosis of the conjunctiva, or swelling of the lids. To prevent the gumming together of the eyelids during sleep, a little unguent. cetacei should be smeared along their tarsal borders every night.

At the commencement of the attack the bowels should be well acted on by some purgative, and, if the patient is hot and thirsty, an alkaline or effervescing draught may be prescribed; but as a rule, tonics, such as quinine, iron, or bark, will be required, and these should be continued during the progress of the ophthalmia. The disease is very depressing and the tendency to ulceration and sloughing of the cornea is increased as the vital energies of the patient are lowered.

If the purulent ophthalmia is very severe, the plan of treatment recommended for gonorrhœal ophthalmia in the next section, should be pursued.

After the severity of the disease has been arrested, there is apt to remain a muco-purulent discharge, which will often obstinately resist all treatment for many weeks, or even months. For this condition I have frequently found much benefit from the use of a few drops of *zinci chlorid. gr. j ad aquæ ℥j*, dropped twice a day into the eye. When this chronic discharge is persistent, the upper lids should be everted, and it will then be frequently found that it is due to a granular state of the

palpebral conjunctiva, induced by the disease. This granular condition of the lids is one of the most frequent results of purulent ophthalmia, and one of the most intractable diseases the surgeon can be called upon to treat. Without entering upon the numerous remedies which have been tried and vaunted as certain cures, I will only state the one mode of treatment with which I have had the most reason to be satisfied. It is the application of a strong solution of nitrate of silver, varying in strength, according to the severity of the case, from gr. v to gr. xx ad aquæ ℥j, and after waiting thirty or forty seconds to allow it to take full effect, washing off the surplus with a stream of cold water, or with a weak solution of common salt and water.

The way in which the solution should be applied is as follows: The patient is to be seated in a chair, and the surgeon, standing behind him, with a probe everts the upper lid so as fully to expose the palpebral conjunctiva, over the surface of which he paints with a camel's hair brush the solution of the nitrate of silver, taking care to apply it thoroughly to the reflection of conjunctiva which forms the oculo-palpebral fold. After waiting for about half a minute, he then, with a syringe, gently squirts over the granular surface a stream of cold water, or what is better, a solution of common salt of about the strength of gr. x, ad aquæ ℥j, to wash away and neutralize all the surplus nitrate of silver, so as to prevent its irritating the eye, or blackening the ocular conjunctiva, a misfortune I have seen occur when strong solutions of the caustic have been frequently used without taking these precautions.

GONORRHOËAL OPHTHALMIA is an acute specific inflammation of the conjunctiva of the lids and globe, induced by the inoculation of some gonorrhœal matter into the eye. It is characterized by a profuse purulent discharge from between the lids, which is of a yellow color, and exactly corresponds in appearance with that which flows from the urethra.\* The disease is rapid in its progress, and very destructive; unless it is soon checked, the eye is lost.

*Treatment.*—A few years ago the treatment consisted in excessive bleedings from the arm, and in the use of strong depressing medicines. Experience has shown the error of such proceedings, and by now adopting a directly opposite course, a far larger proportion of cases recover with good and useful eyes. In gonorrhœal ophthalmia the treatment must be constitutional and local.

*Constitutional Treatment.*—From the very commencement of the attack the strength of the patient must be supported by tonics, diffusible stimuli, and a liberal diet. The whole history of a gonorrhœal ophthalmia is of a depressing character. The patient, generally suffering from gonorrhœa at the time the eyes become inoculated, is, from the nature of his complaint, and the treatment adopted to cure it, below the standard

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\* The discharge from the eye in this gravest form of ophthalmia may be of a muco-purulent character; it may also be accompanied by a profuse flow of tears by which the pus is diluted and washed away almost as fast as it is formed. We prefer, therefore, the definition of STELLWAG, who describes this disease as "characterized by true chemosis (i. e. swelling of the conjunctiva covering the eye ball, and forming a raised swelling around the cornea), and by great secretion of muco-purulent or purulent product of inflammation, which either rolls up in flocculi or dissolves in the tears."—J. G.

of health. The disease itself is also very exhausting; but the prospect of loss of vision, with the utter annihilation of all future prospects, adds to the sense of loneliness and despair. The fact that the patient is suffering from a severe urethral discharge, will not forbid the free use of tonics and stimulants. The danger of ulceration and sloughing of the cornea is increased as the vital powers are depressed. Having therefore first acted freely on the bowels by a moderate purgative, quinine in 2-gr. doses, or cinchona with the mineral acids, should be given every four hours. If there is much pain or irritability, opium should be prescribed, either in small quantities frequently repeated, or in one full dose at bedtime. When there is heat of the skin, with thirst and a furred tongue, an effervescing mixture with ammonia may be advantageously ordered before prescribing the direct tonics. The diet should be one with meat or beef tea, and with a certain amount of wine or brandy, according to the strength of the patient.

*Local Treatment.*—The best applications are nitrate of silver, lotions of alum, or of sulphate of zinc and alum, and cold.

1. *Nitrate of Silver.*—This is best used in the form of solution, varying in strength from gr. x to gr. xxx. ad aquæ ℥j, according to the severity of the case. The lids should be everted, and the conjunctival surfaces painted over with the solution, which should be allowed to remain a few seconds, so as to whiten the parts, and be then washed off in the manner described in the last section.

This should be repeated once daily, and in very bad cases a second application may be necessary. When the lids are so swollen that they can not be everted, two or three drops of a weaker solution of nitrate of silver, from gr. ij ad gr. x, ad aquæ ℥j, may be dropped twice a day into the eye, after it has been first cleansed by syringing away the discharge with cold water.

2. *Lotions of Alum.*—Gr. vj ad aquæ ℥j, or of sulphate of zinc and alum, of the proportions already mentioned, should be used at least once every hour to wash away the discharge as often as it accumulates. The lotion should be gently injected over the surface of the globe so as thoroughly to wash away all purulent matter at each application.

3. *Cold* is very grateful to the patient, and may be applied during the intervals between using the lotion, by placing a fold of lint, wet with iced water, over the eyelids, and changing it as often as it becomes hot or dry. The patient may also be allowed to wash away the discharge as fast as it exudes from between the lids with a piece of linen dipped in the iced water. By a steady perseverance in this line of treatment the best chance of saving the eye is afforded to the patient, but the disease is frequently of so virulent a character, that in spite of all remedies, and the most judicious management, the cornea sloughs, and the eye, for all useful purposes, is irretrievably lost.

[It may not be superfluous to add that in treating a disease so highly contagious as gonorrhœal ophthalmia, the greatest care



should be exercised to guard the patient against inoculating the other eye either by means of the fingers or by the handkerchief, or in applying lotions or compresses.—J. G.]

8. *On the Use of Carbolic Acid in Ulceration of the Cornea.*  
By A. D. WILLIAMS, M. D.

[*Cincinnati Lancet and Observer*. December. 1868.]

Dr. WILLIAMS has been lately employing, as an application to ulcers of the cornea, a solution of carbolic acid (gr. xxx ad 3 j.), in water or glycerine; a minute drop of the diluted acid is applied to the surface of the ulcer by means of a smooth probe. He has used it chiefly in progressive ulceration of the cornea with hypopion, but not to the exclusion of other treatment, by atropia, paracentesis corneæ, and the internal administration of opium with or without quinine. The acid solution spreads over the ulcerated surface instantly, turning it white; it causes intense smarting pain for five or ten seconds, after which a sense of great relief is experienced. The acid is applied twice a day, confining its action, as much as possible, to the area of the ulcer, and particularly to its margins. Dr. WILLIAMS' cases have so far done extremely well; the relief of pain has been most striking, and the cicatricial opacity has been surprisingly small.

The carbolic acid treatment is also applicable to the small ulcers of the upper part of the cornea occurring in connection with trachoma; it relieves the photophobia and stimulates the part to healthy action.

JOHN GREEN, M. D.

#### ANATOMY AND PHYSIOLOGY.

4. *The Structure of the Cerebral Convolutions.* By Mr. LOCKHART CLARKE, in MAUDSLEY'S "Physiology and Pathology of the Mind."

[*Quart. Journ. Psychol. Med.*, July. 1869; from *Four. of Mental Science*.]

In the human brain most of the convolutions, when properly examined, may be seen to consist of at least *seven* distinct and concentric layers of nervous substance, which are alternately paler and darker from the circumference to the centre. The laminated structure is most strongly marked at the extremity of the *posterior* lobe. In this situation all the nerve-cells are *small*, but differ considerably in shape, and are much

more abundant in some layers than in others. In the superficial layer, which is pale, they are round, oval, fusiform, and angular, but not numerous. The second and darker layer is densely crowded with cells of a similar kind, in company with others that are *pyriform* and *pyramidal*, and lie with their tapering ends either toward the surface or parallel with it, in connection with fibres which run in corresponding directions. The *broad*er ends of the pyramidal cells give off two, three, four, or more processes, which run partly toward the central white axis of the convolution and in part horizontally along the plane of the layer, to be continuous like those at the opposite ends of the cells, with nerve-fibres running in different directions.

The third layer is of a much paler color. It is crossed, however, at right angles by narrow and elongated groups of small cells and nuclei of the same general appearance as those of the preceding layer. These groups are separated from each other by bundles of fibres radiating toward the surface from the central white axis of the convolution, and, together with them, form a beautiful fanlike structure.

The fourth layer also contains elongated groups of small cells and nuclei, radiating at right angles to its plane; but the groups are broader, more regular, and, together with the bundles of fibres between them, presents a more distinctly fanlike arrangement.

The fifth layer is again paler and somewhat white. It contains, however, cells and nuclei which have a general resemblance to those of the preceding layers, but they exhibit only a faintly radiating arrangement.

The sixth and most internal layer is reddish gray. It not only abounds with cells like those already described, but contains others that are *rather larger*. It is only here and there that the cells are collected into elongated groups which give the appearance of radiations. On its under side it gradually blends with the central white axis of the convolution, into which its cells are scattered for some distance.

The seventh layer is this central white stem or axis of the convolution. On every side it gives off bundles of fibres, which diverge in all directions, and in a fanlike manner, toward the surface through the several *gray* layers. As they pass between the elongated and radiating groups of cells in the *inner* gray layers, some of them become continuous with the processes of the cells in the same section or plane, but others bend round and run *horizontally*, both in a transverse and longitudinal direction (in reference to the course of the entire convolution), and with various degrees of obliquity. While the *bundles* themselves are by this means reduced in size, their component *fibres* become finer in proportion as they traverse the layers toward the surface, in consequence, *apparently*, of branches which they give off to be connected with cells in their course. Those which reach the outer gray layer are reduced to the finest dimensions, and form a close net-work with which the nuclei are in connection.

Besides these fibres, which *diverge* from the central white axis of the convolution, another set, springing from the same source, converge, or rather curve inward from opposite sides, to form arches along some of the gray layers. These arciform fibres run in different planes—trans-

versely, obliquely, and longitudinally—and appear to be partly continuous with those of the *divergent set* which bend round, as already stated, to follow a similar course. All these fibres establish an infinite number of communications in every direction between different parts of each convolution, between different convolutions, and between these and the central white substance.

The other convolutions of the cerebral hemispheres differ from those at the *extremities of the posterior lobes*, not only by the comparative faintness of their several layers, but also by the appearance of some of their cells. We have already seen that, at the extremity of the *posterior lobe*, the cells of ALL the layers are *small*, and of nearly uniform size, the inner layer only containing some that are a little larger. But, on proceeding forward from this point, the convolutions are found to contain a number of cells of a *much larger kind*. A section, for instance, taken from a convolution at the vertex, contains a number of *large*, triangular, oval, and pyramidal cells, scattered at various intervals through the two inner bands of arciform fibres and the gray layer between them, in company with a multitude of smaller cells which differ but little from those at the extremity of the posterior lobe. The pyramidal cells are very peculiar. Their bases are quadrangular, directed toward the central white substance, and each gives off four or more processes which run partly toward the centre, to be continuous with fibres radiating from the central white axis, and partly parallel with the surface of the convolution, to be continuous with *arciform* fibres. The processes frequently subdivide into minute branches, which form part of the net-work between them. The opposite end of the cell tapers gradually into a straight process, which runs directly toward the surface of the convolution, and may be traced to a surprising distance, giving off minute branches in its course, and becoming lost, like the others, in the surrounding net-work. Many of these cells, as well as others of a triangular, oval, and pyriform shape, are as large as those in the anterior gray substance of the spinal cord.

In other convolutions the vesicular structure is again somewhat modified. Thus, in the surface convolution of the great longitudinal fissure, on a level with the *anterior* extremity of the corpus callosum, and therefore corresponding to what is called the superior frontal convolution, all the three inner layers of gray substance are *thronged* with pyramidal, triangular, and oval cells of considerable size, and in much greater number than in the situation last mentioned. Between these, as usual, is a multitude of nuclei and smaller cells. The inner orbital convolution, situated on the outer side of the olfactory bulb, contains a vast multitude of pyriform, pyramidal, and triangular cells, arranged in very regular order, but none that are so large as many of those found in the convolutions at the vertex. Again in the *insula*, or island of Reil, which overlies the extra-ventricular portion of the corpus striatum, a great number of the cells are somewhat larger, and the general aspect of the tissue is rather different. A further variety is presented by the *temporo-sphenoidal lobe*, which covers the *insula* and is continuous with it; for, while in the

superficial and deep layers the cells are rather small, the middle layer is crowded with pyramidal and oval cells of considerable and rather uniform size. But not only in different convolutions does the structure assume, to a greater or less extent, a variety of modifications, but even different parts of the same convolution may vary with regard either to the arrangement or the relative size of their cells.

Between the cells of the convolutions in man and those of the *ape-tribe* I could not perceive any difference whatever; but they certainly differ in some respects from those of the larger mammalia—from those, for instance, of the ox, sheep, or cat.

5. *On the Physiology of the Cerebellum.* By S. WEIR MITCHELL, M.D., Member of the National Academy of Sciences.

[*Amer. Jour. Med. Sc.*, April, 1869, p. 320.]

Dr. MITCHELL'S investigations on the functions of the cerebellum are of the utmost importance; for, if confirmed, they will subvert the long prevalent doctrine of the function of "co-ordination." The principal results and conclusions arrived at will be found embodied in the passage we quote:

We must admit, in the first place, that apparent loss of co-ordination follows cerebellar lesions. It appears clear, from my own researches, that these injuries do not cause this result, owing to mechanical and incidental affections of near parts.

In birds, injuries and congestion of the spine give rise, at first, to seeming in-coordination, or at least to exactly such phenomena as follow like injuries addressed to the cerebellum. When the cerebellum has been removed, spinal irritation still continues to evolve the same symptoms as when the cerebellum exists untouched. These facts indicate for these two organs, in birds at least, a curious community of pathological symptoms, and probably of physiological function. If then there be such a functional entity, having a separate seat, as the so-called co-ordination, it belongs in birds to an extensive region, including the cerebellum and a large part of the spine.

There is yet possible, however, another view of cerebellar activity which will accept all of the facts and account for all. Let us suppose the cerebellum to be a great ganglionic mass, possessing the same motor functions as the gray matter of the spine, related like it, and through it, to the voluntary muscles. Irritations of its tissues, ablation, the temporary, equivalent of extensive irritation, congestions, as from cold or other causes, might occasion both directly through the spine, or indirectly by reaction on its ganglia, just such confusion of motion, restlessness, and locomotor disorders as we do actually see, and as were said entitle it to be called the organ for co-ordinating muscular acts. As the irritation disappeared, so would the muscular disturbances, until, when there was

no longer irritation, there would cease to be locomotor difficulties of the character described, the spinal centres having by degrees assumed, with the aid of the will, the function shared in health with the lost organ.

Referring anew to laws of research laid down at a former page, I remind the reader that, if an organ be lost, and no function *finally* disappears, it either had none, or possessed one in common with some part which remains uninjured, and capable of at last supplementing the function of the destroyed tissues. For these reasons I am disposed to deny to the cerebellum any larger share in co-ordination than exists in any ganglion employed in voluntary motion, and to assign to it a part closely relating it in powers to the chain of spinal ganglia. The cerebellum becomes for me, therefore, a great reinforcing organ, capable of being more or less used in volitional muscular motion. Its loss, as I have elsewhere stated, leaves finally no functional defect save some incapacity for prolonged motor activity.

The apparent in-coördination which follows section through the deeper layers of the cerebellum, is simply a confusion of movement due to the joint action of two separate and interfering agencies. In health the cerebellum is called upon by the will when needed, and acts through the spine on the muscles. After irritation or ablation (the equivalent, for a time, of extensive irritation), we have two sets of forces in action—that arising from the excited and wounded efferent cerebellar fibres, a force inconstant, irregular, involuntary; and secondly, the normal activity of the will, which, in presence of the former disturbing power, fails to evolve the usual orderly reply from the muscles. The general result is seen in the strange confusion of movement which is so familiar to the physiologist.

#### 6. *Phosphates of the Urine Increased by Mental Exertion.* Dr. H. BYASSON.

[*Medical Record*, March 15, 1869.]

Dr. H. Byasson, in a little pamphlet entitled "Essay on the relation which exists under physiological conditions between the Cerebral Activity and the composition of the Urine," furnishes a variety of experiments instituted upon his own person which confirm, in an exact manner, the popular belief of an increase in the phosphates of the urine as the result of mental exertion.

Dr. B. commences by detailing his method of analyzing the urine with reference to attaining the greatest amount of exactness in determining the constituents quantitatively. For twelve days he made daily examinations of his urine, taking no special precautions as to his diet. For nine days he confined himself to an exclusive diet of bread and water. Under the latter regimen he maintained his weight, and enjoyed ordinary health. He gives details of his daily occupations while performing these analyses, alternating days devoted to study, with days spent in muscular exertion, or in complete bodily and mental activity.

While indulging in a mixed diet he found no special variations in the composition of the urine, as the result of his occupation, but when confined to a simple diet of bread and water, he found that when the brain was in a state of activity, there was a more abundant production of urine, and the simultaneous appearance in the urine of urea, and the alkaline phosphates and sulphates in increased proportions.

When the muscular system was chiefly called into action there was an increase in the amount of urine, and the simultaneous apparition in the urine of urea, uric acid, and chloride of sodium. So that, provided a man should be subjected for three days to a uniform diet, and placed under nearly similar external circumstances, it would be possible to determine, by analysis alone of urine, which day had been passed in repose, and which had been spent in physical or mental exertion.

7. *The Structure of the Pancreas.* M. GIANUZZI, in the *Académie des Sciences*, Paris, Session May 31, 1869.

[*Archives gén. de méd.*, July, 1869.]

M. GIANUZZI presents the following as the result of his researches on the intimate structure of the pancreas :

1. The excretory canals of the pancreas have very thin walls, lined interiorly with a cylinder epithelium. They have not the same connections with the secreting vesicles as in the salivary glands, but form around them a network composed of very fine tubes which have no epithelium and which encircle with their meshes the pancreatic cells. This network may be compared to that of the biliary passages of the liver.
2. The networks of excretory canals of the different vesicles which form one glandular lobule are connected with one another and constitute a common network.
3. The blood vessels of the pancreas follow in general, with their terminal ramifications, the course of the pancreatic passages. They surround the vesicles and lobules of the gland with their capillaries, which are interposed between the meshes of the secretory passages.
4. The pancreatic vesicles have no walls.
5. The pavement epithelium of the vesicles is composed of flattened cells with a nucleus and a process. They are, in short, very similar to those of the salivary glands, but their nucleus is more easily distinguished, and their protoplasm is more granular and encloses fat granules.

6. I have not found in the glandular vesicles of the pancreas of the dog, in which I have made my researches, the semilunar body which I first discovered in the submaxillary gland of the same animal.

# HYGIENE.

## 3. *On Certain Influences of Schools Injurious to Health.* By Prof. RUD. VIRCHOW.\*

[*Virchow's Archiv*, XLVI, p. 447, May, 1869.]

The injurious influences of schools upon the health of the pupils have frequently, especially since the end of the past century, attracted the attention of physicians and teachers, now on this, now on that point, yet usually without being investigated more exactly, in a truly scientific manner. . . . Only very few attempts were made by means of systematic researches to gain a basis of real facts for forming opinions, and it must be acknowledged a very great advance that a beginning has been made at present in certain directions to procure statistics of what may be called the school diseases. Only extensive, scientifically certain, *comparative* statistics will enable us to judge with full confidence what affections or diseases are produced by the schools, and what means should be adopted to prevent them. Where this basis is wanting, there are still certain general scientific rules, which are applicable to schools as well as to other institutions of society, but it can not be denied that, in applying them, important conditions may very easily be overlooked or wrongly estimated.

The following report will endeavor to keep the two groups as distinct as possible, and carefully separate those affections well established in fact from those merely guessed at. In first line, as regards reliability of actual demonstration, we have:

1. *Affections of the Eye, especially Nearsightedness.* The first (though still inaccurate, and in no wise methodical) endeavors to establish by statistics the supposed influence of schools upon the development of nearsightedness were made in the beginning of this century by the Englishman WARE. Since

\* This report owes its origin to an investigation by request of the Prussian Government. We consider it of considerable value, presenting a clear and convenient view of this important hygienic question, and therefore give an English version of as much of it as our space will allow.—ED.

then, similar researches have been made in different parts of the continent, particularly in Germany, partly official, partly by private persons, but almost never logically and systematically. Only the investigations of Dr. HERMANN COHN,\* of Breslau, both as regards the number of persons examined, and as regards the method and accuracy of observation, have assumed a shape corresponding to the demands of modern science, and may be considered as exceedingly valuable, nay in a certain sense as decisive. . . .

The total result was found to be that, among the 10,060 scholars, vision was not normal in 17.1 per cent., but that the latter figure was very unequally distributed, namely :

In the village schools.....	5.2	per cent.
“ city primary schools.....	14.7	“
“ middle schools.....	19.2	“
“ girls’ high schools.....	21.9	“
“ “Real” schools.....	24.1	“
“ gymnasia [high schools].....	31.7	“

Among the 410 students examined there were found even 68 p. c. with abnormal vision (ametropia).

Now leaving out of present consideration hyperopia, astigmatism, and the actual *diseases* of the eyes, as of secondary importance, and considering only nearsightedness proper (myopia), still we meet with the distressing result, that in all nearly 10 p. c. of the children are nearsighted, viz :

In village schools.....	1.4	p. c.	
“ city primary schools.....	6.7	“	} city schools 11.4 p. c.
“ girls’ schools.....	7.7	“	
“ middle schools.....	10.3	“	
“ “Real” schools.....	19.7	“	
“ gymnasia.....	26.2	“	
And among students.....	60.0	“	

The regular increase here presented in the aggregate is repeated in a remarkable manner in taking separate account of each school according to classes :

	VI.†	V.	IV.	III.	II.	I.
Primary schools... ..	..	..	2.9	4.1	9.8	9.8
Gymnasia.....	12.5	18.2	23.7	31.0	41.3	55.8

\* Some account of these investigations was presented to the readers of this Journal in the January number of this year, p. 73.

† VI, or IV respectively, being the lowest, I the highest class. —Ed



The unfavorable opinion of Dr. COHN is therefore, unfortunately, incontrovertible, the less so since he shows, by extensive tabular evidence, that not alone does the number of the near-sighted increase from class to class, but the degree of myopia likewise rises. . . . The myopia in these schools, therefore, is on the whole *progressive*; it pursues that dangerous path which gradually leads to actual asthenopia.

Dr. COHN justly disavows the opinion that the enormous frequency of myopia among school children should be ascribed solely and exclusively to the school. Outside of the school, even under the parental roof, many unfavorable conditions are evidently operating. . . . Nevertheless it may be affirmed with full assurance, that persons of the age of scholars in the first class of gymnasia do not average 55 to 56 p. c. of nearsighted, nor are there 60 p. c. among persons of the age of students. And though we may concede that insufficient illumination, fine print and fine handwriting, the habit of bending forward, etc., operate injuriously in domestic occupations, also, it must yet be acknowledged that some of these disadvantages at home arise from habits of the school, or at least that the school does not sufficiently oppose the acquiring of these habits, but rather directly favors some of them.

Beside the question of illumination and light of the school-room, Dr. COHN has principally examined that of the furniture, i. e. desk and seat, and believes himself justified in condemning the present arrangement as positively injurious. This arrangement, he says, compels the pupils to look at print in close proximity and with their heads bent forward. This requires, on the one hand, a greater activity of the muscles of accommodation in the eye, causing in its part an increase of hydrostatic pressure in the posterior part of the eye ball and elongation of its axis; and on the other hand the bending forward of the head causes obstruction to the flow of blood from the eye, congestion of the eye, and hence also increased pressure in the fundus of the eye. Both circumstances together are the cause of the nearsightedness. . . .

2. *Determination of Blood to the Head.* In the previous section the fact has already been spoken of, that the inclined position of the head causes congestions. . . . Other conditions operate in the same direction. In bending the head forward, the trunk naturally is also inclined forward, and the more so, the lower the desk. From this results a certain compression of the

abdomen, with consequent impaired activity of the diaphragm, the most powerful muscle of respiration. But incomplete inspiration opposes the return of blood from the veins of the neck into the chest.

Added to this is the circumstance that during close attention respiration is incompletely performed, the more so, the less the demand for respiration is directly excited by one's own speaking. . .

All these circumstances favor what is called *passive* or mechanical congestion, by impeding the return of venous blood. But there is, in school, a very efficient cause also for so-called *active* congestions to the head, i. e. increased flow of arterial blood, and that is the active labor of the brain. . .

Among the various affections arising from these partly passive, partly active, congestions, the following three have of late given occasion for statistical researches :

a.) *Headache*. GUILLAUME (*Hygiène scolaire*. Genève, 1864), who designates it plainly as "*céphalalgie scolaire*," found, among 731 pupils of the Collège municipal in Neufchatel, 296 suffering frequently from headache,—over 40 p. c. Girls were more often afflicted with it than boys, 51 p. c. of the former to 28 p. c. of the latter. . . . BECKER (*Luft und Bewegung zur Gesundheitspflege in den Schulen*, Frankfurt a. M., 1867) examined 3564 pupils; . . . 974 of them, or 27.3 p. c. suffered more or less from headache. . . . In the first class of the gymnasium 80.8 p. c. complained of it. BECKER concludes from his figures,—what is not quite accurate,—that the number is smallest in the first school years, and increases with longer attendance, greater number of hours of attendance, and the amount of mental exertion required. As an auxiliary cause he mentions too small rooms.

It is necessary to mention another circumstance for consideration. DEVILLE and TROOST found that certain gases, especially carbonic oxide, are capable of passing through red-hot iron, a circumstance not rarely confirmed in school rooms heated by iron stoves. Headache, dizziness, trembling and similar accidents are the consequences of a slight operation of this so poisonous gas. Dr. OIDTMANN does not hesitate to assume chronic poisoning by carbonic oxide as comparatively frequent in his part of the country, which is rich in iron stoves.

b.) *Hæmorrhage from the Nose*. GUILLAUME found it frequent in 21 p. c.; more frequent in boys (22 p. c.) than in

girls (20 p. c.) . . . BECKER found only 11.3 p. c. subject to epistaxis; accurate details are not given, but he states that the hæmorrhages are most frequent in the higher classes of the gymnasium, in the girls' high school and one private school,—in those schools, as he says, the pupils of which sit longest in school and move about least in the open air.

c.) *Goitre*. [GUILLAUME calls it *goître scolaire*, the scholars call it "*gros cou*." He found it in 56 p. c.—58 p. c. among boys, 64 p. c. in girls. It frequently disappears during vacations, and becomes permanent only at a later date, but is sometimes found in girls of 8 years after one year's attendance. Thus far, the data of GUILLAUME stand alone, and it is doubtful if they are entitled to general acceptance, though it is true that the female sex and youth predispose to goitre, and that dilatation of the cervical vessels engender a disposition to this affection.]

Headache and bleeding from the nose, however, are affections sufficiently well known to physicians and many parents as not rarely accompanying attendance at school. The observations before us do not indeed suffice for drawing absolutely certain conclusions, . . . nevertheless we can not but acknowledge even now, that the school favors, and perhaps often causes, these conditions, and that their frequent occurrence should be a subject of serious consideration.

At this point, the question naturally suggests itself as to the influence of congestive states, such as have been spoken of above, in relation to the mental faculties of the pupils. In fact it can not be doubted that such conditions are often combined with confusion, incapacity for thought and mental labor, and that, when they become habitual, they may engender dangerous predispositions of the brain. . . .

3. *Curvatures of the Spine*. Not a few among the physicians who have paid special attention to the school question, and a great number of orthopædists, maintain the opinion that the school bears a large share of the blame in the production of deviations of the spinal column. Especially the lateral curvature, so-called scoliosis, and chiefly the form known as "habitual scoliosis," is here accused. FAHRNER says: "Since almost 90 p. c. of these curvatures originate during school years, and the curvature corresponds exactly to the posture in writing, we certainly are justified in accusing the school as the main cause." GUILLAUME illustrates the comparison of the common form of

scoliosis to the writing posture by a drawing, undoubtedly correct in itself, and adds that he found, among 731 pupils, 218 (i. e. almost 30 p. c.) showing a deviation of the spine.

The experiences of orthopædists unanimously agree in that the majority of scolioses originates during the period of obligatory attendance at school. . . . It can be asserted with safety, that the common scoliosis is a developmental disease of the age of obligatory attendance. It is less certain if the school as such be the chief cause of this disease. On the one hand, comparisons are wanting with such countries and ages where school attendance is not obligatory. The testimony of the Primary School Committee of New York, which GUILLAUME adduces, has a certain value, but it is not decisive. On the other hand, comparison of many schools would be necessary on this point. . . . A special consideration against the implication of the school is the great preponderance of scoliosis in the female sex. [GUILLAUME counts 18 p. c. among boys and 41 p. c. among girls. This of course includes many slight cases. The experience of orthopædists, chiefly on severer cases, is more striking. KLOPSCH reckons 84-89 p. c. of all scoliotic persons to be in females, etc.] With these figures before us it can not be doubtful that the school is not the only cause of scoliosis; nay it must be conceded that it is not even the chief cause. . . .

From consideration of the evils spoken of, even though they are only in part to be ascribed to the school, very definite obligations of the latter may be deduced. On the one hand, the pupils, especially the female pupils, must be appropriately seated and carefully watched in regard to posture and carriage, on the other hand they must be offered well-timed opportunity by gymnastics to give proper exercise to their limbs.

4. *Affections of the Organs of the Chest.* . . . Selecting [from the accurate mortuary tables of Berlin] the ages of obligatory school attendance, we meet with a rapid rise of the mortality from pulmonary and laryngeal phthisis in the ages of from 10 to 15 years, which began in the preceding period of from 5 to 10 years of age, and is considerably augmented still in the later period of from 15 to 20.

		Pulm. Phthisis	Consumption.
There occur, at the age of	5—10 years,	4.81	8.93
"	" 10—15 "	12.96	7.90
"	" 15—20 "	31.88	4.74 per cent.
of the deaths from all causes, without considering scrofula and			

many other nearly related categories. This result is certainly very remarkable, especially when we consider that, in persons of these ages, only typhoid fever and cholera afford mortality figures at all approaching the above.

This mortality, it is true, cannot be ascribed to attendance at school alone; . . . nevertheless the fact must not be underrated. Circumstances of moment indicate that the school contributes much towards it. The following influences more especially may be counted as injurious: (1) the vicious air, rendered so by the presence of many children; (2) frequent "colds" caused by the change from the hot school room to the free and cool air outside, by draughts from windows and doors, etc., whereby inflammations of the throat and chest are produced in great number; (3) the dust of the school rooms; (4) the fact that the respiratory movements are impaired by the long continued sitting.

[The author here mentions that from recent investigations we are no longer able to identify phthisis with tuberculosis, but that the former is due to a variety of processes, all of which finally produce ulcerations of the lungs.] The majority of these begin with simple catarrhal and inflammatory processes which owe their origin to external agents, especially cold and the inhalation of irritating substances (dust, carbon, etc.) Their continuation is favored by low respiratory movements, which effect accumulations and retention of excretory matters; furthermore, by the viscosity and perishable nature of these excretory substances, which are decomposed and inspissated, and on the character of which the nature of the inspired air has no less, perhaps even more, influence than the quality of the food; finally, by the continuation or repetition of the irritations.

This brief synopsis will suffice to show how dangerous may be a school with defective arrangements and inefficient superintendence, and how much reason there is to fear that a part of the fatal results of phthisis in the school ages may really be attributed to the school as such, and that in part even the unfavorable termination taking place after school life may be laid to the school period.

5. *Affections of the Abdominal Viscera.*

6. *Contagious Diseases.*

7. *Injuries.*

[We pass over these sections for want of space, because they are of less importance, and no accurate statistical data are

adduced. The author finally enumerates the following known injurious agencies and causes of disease pertaining to schools, to which attention should be directed:]

(1.) *The air in the schoolroom*, the quality of which is determined by the size of the room, the number of pupils, the mode of heating, the ventilation, moisture of the floor and walls, dust (cleanliness).

(2.) *The light*, as determined by the situation of the building and room, the size of the windows and their relation to the desks, the color of the walls and surroundings, artificial light (gas, oil).

(3.) *The sitting* in the schoolroom, especially the relations of desk and seat, size of the seats, their arrangement, duration of sitting.

(4.) *Bodily exercise*, especially playing, gymnastics, swimming, their relations to sitting and to the purely mental labor, their arrangements and superintendence.

(5.) *Mental exertion*, its duration and variety, the individual amount, the arrangement and duration of recesses and vacations, the extent of home and school exercises, the date of commencement of obligatory attendance, etc.

(6.) The *punishments*, especially corporeal.

(7.) The *water for drinking*.

(8.) The *privies*.

(9.) The *means* (implements) *of instruction*, especially the choice of school books, (size of type) and objects of illustration.

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## Editorial.

### "THE INDICATIONS FOR TREATMENT IN INFLAMMATION."

ST. LOUIS, August, 1869.

*To the Editor of the St. Louis Med. & Surg. Journal:*

SIR.—The "Comments," by Prof. BAUDUY, contained in the July number of your Journal, upon "Indications for Treatment in Inflammation," have received that respectful attention which their merits and the spirit of true scientific inquiry demand. I am pleased to find that we agree upon many points where the more popular doctrines differ from both of us; and as I have failed to be convinced upon those points with which the Doctor takes issue, I would wish to present my reasons, and to express myself more definitely.

If I understand Dr. BAUDUY correctly, he agrees with me in discarding the "humoro-pathological views" of inflammation as well as the "neuro-pathological." We admit the many *facts* which are coördinated under these time-honored systems, respectively, but we do not recognize the systems themselves as representing the true pathology of the disease. But Dr. BAUDUY adopts the "cellular pathology," and views inflammation from that stand-point. If I have been able to analyze his paper correctly, that is the origin of the issues between us. I look upon the cellular pathology as an abstraction, and do not recognize it as representing the true pathology of inflammation more than the one-sided systems which it is intended to supersede. As my views upon this subject have already been developed in a general way, I will here only refer to it so far as it seems to lead to the issues between Dr. B. and myself.

His leading position is, "inflammation once commenced cannot be cut short." As I have said, this is based upon the system of "cellular pathology." "There is in the tissues themselves, or their ultimate cellular constituents, an *irritation* which is entirely outside of the blood-vessels, or of the blood itself." Thus Dr. BAUDUY argues: As the "irritation" belongs to the cell, *outside of the blood-vessels*, as individual, and as this "irritation" is the "*fons origo* of the whole disturbance," it cannot be reached by treatment, and hence inflammation cannot be cut short. This reasoning I hold to be perfectly sound, but it equally follows from that conception of "irritation" that inflammation could not be at all, nor could there be life. As I know that life and inflammation are real facts, and as I equally believe that inflammation has been, and may be, cut short, I take issue with his cellular pathology and his conception of *irritation*.

I hold that the "irritation of the cell," whether "functional, nutritive, or formative," is the reflection of all that it is not; that the existence, the life, the truth of the individual cell, as individual, is just that reflection. With this conception of irritation it can be reached, because it is relative and not absolute; the *not-the-cell* may be modified, and thus the irritation of the cell. We agree that the congestion of inflammation is the "result of a *vis a fronte*," but this *vis a fronte* is relative,—the "cells" could not attract the blood unless the blood equally attracted the cells. Through the blood, therefore, the "irritation" of the "cells outside of the blood-vessels" may be regulated. Thus alone are life and disease and remedies possible. Therefore, the question as to the treatment of inflammation is still open, as well as what constitutes the administration of food judicious.

J. H. WATTERS.

#### MEDICAL BIBLIOGRAPHY.

*Chemistry*.—Mr. Lea is about to follow up the reprint of the new edition of FOWNES'S *Chemistry* by a reproduction, from the 4th London edition, of ODLING'S *Course of Practical Chemistry*, arranged for the use of medical students. We are glad to make this announcement, in the hope that both students and teachers of chemistry in medical schools are experiencing the necessity and creating a demand among us for a work on practical laboratory study, specially adapted to their wants.

*Anatomy and Physiology*.—The 4th vol. of ECKHARD'S *Beiträge zur Anatomie und Physiologie*, 4to., Giessen, is just completed by the appearance of a third fasciculus. ECKER, *Die Hirnwindungen des Menschen*, &c., ("The cerebral convolutions of man, especially on their development in the fœtus"), Vieweg, Brunswick. HELMHOLTZ, *Die Mechanik der Gehörknöchelchen u. d. Trommelfells*, ("The mechanism of the ossicula auditus and membrana tympani"), Cohen & Sohn, Bonn. Fannin & Co., Dublin, announce the issue of a new edition of the illustrated work of Dr. POWER on the Anatomy of the Arteries of the Human Body.

The "anapnograph," youngest brother of the sphygmograph, a new apparatus designed to register the movements of the chest, invented by Dr. BERGEON, is described, together with the results of some investigations instituted by its aid, in a work entitled *Recherches sur la physiologie médicale de la respiration*, &c., 8vo., the first fasciculus of which has been issued by A. Delahaye, Paris.

In *Pathological Anatomy*, we note with pleasure the completion of RINDFLEISCH'S *Lehrbuch der pathologischen Gewebelehre*. ("Treatise on pathological histology"), 8vo. Engelmann, Leipzig.

*Medicine*.—A new work on diseases of children, by HERZFELD, has made its appearance, Braumüller, Vienna.

Baillière et fils, Paris, advertise: NISSERON, *De l'urine*; &c. ("On the urine; new semeiological facts; the principal reagents employed at the bed side"), 290 pp. 8vo.



John Murray, London, published a Memoir of John Conolly, M. D., D. C. L., by Sir James Clark, "comprising a sketch of the treatment of the insane in Europe and America."

The "*points douloureux*" of Valleix, and their causes, have been the subject of studies, which resulted in the work bearing the above title, by LENDER, published by Veit & Co., Leipzig.

The following monographs, also, are announced: MARTYN, Hooping-Cough, its pathology and treatment, 8vo., Churchill, London. BERTIN, *Etude critique de l'embolie dans les vaisseaux veineux et artériels*, 8vo., Delahaye, Paris. DURAND-FARDEL, *Traité clinique et thérape. du diabète*, Asselin, Paris.

*Surgery*.—Longmans, Green & Co., London, are preparing a new edition of HOLMES's System of Surgery. A new edition of ERICHSEN's Surgery (the 5th London) is being reprinted by Lea, Philad. Of surgical monographs we may mention: GARRETSON, Diseases of the Mouth and Associate Parts, 8vo., illustrated, in preparation by Lippincott, Philad. RICHTER, *Studien zur Lehre von den Unterleibsbrüchen* ("Studies on Abdominal Hernia") 1. Heft, Winter, Leipzig. THOMPSON (Sir H.), Pathology and Treatment of Stricture of the Urethra and Urinary Fistulæ, reprint from the 3d London ed. by Lea. COCTEAU, *Des fistules uréthrales chez l'homme*; 127 pp., 8vo., Baillière et fils, Paris. BIGELOW, The Mechanism of Dislocation and Fracture of the Hip, with Reduction of the Dislocation by the Flexion Method, 8vo., Lea, nearly ready. FORT, *Des difformités congénitales et acquises des doigts*, &c., 8vo., Delahaye, Paris.

Among the recent German books are two on Venereal Diseases: MUELLER, *Compendium der Gesch., Path. u. Therap. der venerischen Krankheiten*, Erlangen; and KUEHN, *Die Blennorrhæischen Krankh.* etc. (The gonorrhœal diseases of the male and female sex, their diagnosis and treatment), Leipzig.

Mr. Lea has also issued a reprint of SOELBERG WELLS's ophthalmological work, which Messrs. Lindsay & Blakiston had already brought into the American market in the original shape. H. Renshaw, London, has published a new systematic work on the same branch by LAWSON, "Diseases and Injuries of the Eye." 8vo. The second edition of SEITZ's *Handbuch der ges. Augenheilkunde*, continued by ZEHENDER, has just been concluded.

*Obstetrical Literature* has been barren. The only announcement of note we have received is: CHARPENTIER, *Des maladies du placenta et des membranes*, Delahaye, Paris.

*Therapeutics. Toxicology*.—A new contribution to scientific hydrotherapy is: KUECHENMEISTER, *Die therap. Anwendung d. kalten Wassers bei fieberhaften Krankheiten* ("The therapeutical use of cold water in febrile diseases"), 246 pp., 8vo., Berlin.

*Medical Jurisprudence*.—NEUMANN, *Die Erkennung des Blutes bei gerichtlichen Untersuchungen* ("The detection of blood in medico-legal investigations"), Leipzig, is said by critics to be a work of merit. LIMAN, *Zweifelhafte Geisteszustände vor Gericht* (Doubtful Mental Conditions in Court), has also been well received by the medical press.

## METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

## THERMOMETER FAHRENHEIT, 1869.

Day of Month.	JULY.		Day of Month.	AUGUST.	
	Minimum.	Maximum.		Minimum.	Maximum.
1	70.5	87.5	1	62.5	90.5
2	71.0	93.5	2	71.0	89.5
3	73.0	96.0	3	70.5	87.5
4	68.5	80.5	4	72.5	94.5
5	60.5	79.5	5	72.0	90.5
6	62.5	84.5	6	71.0	81.5
7	68.0	90.0	7	59.5	78.5
8	64.0	83.0	8	58.0	79.5
9	65.0	90.0	9	62.5	86.5
10	73.0	95.0	10	64.0	90.0
11	75.5	87.5	11	69.5	86.0
12	73.5	93.0	12	71.5	78.5
13	74.0	96.0	13	71.0	91.5
14	74.0	96.0	14	72.5	88.0
15	72.5	96.5	15	71.0	90.5
16	75.5	96.5	16	74.0	91.0
17	73.0	97.0	17	73.5	89.5
18	69.5	80.0	18	75.5	92.5
19	64.5	88.0	19	76.0	95.0
20	66.0	80.5	20	75.5	95.0
21	57.0	79.0	21	76.0	97.0
22	58.0	83.5	22	78.0	96.5
23	63.0	88.0	23	76.5	97.5
24	68.0	91.5	24	76.0	96.0
25	68.5	88.5	25	73.0	93.5
26	67.5	84.0	26	76.5	88.5
27	63.5	89.5	27	73.0	93.5
28	69.5	87.0	28	72.0	81.0
29	61.5	80.5	29	68.0	78.0
30	60.0	82.5	30	60.5	77.5
31	61.0	84.5	31	58.5	80.0
Means....	67.4	88.7	Means....	70.3	88.5
Monthly	Mean...78.0		Monthly	Mean...79.4	

REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM MORNING TILL NIGHT, AT ST. LOUIS, MO.

1.—Monthly Mean of Positive Atmospheric Electricity.

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 9 years.	No. of Thunder Storms.	Prevailing Winds.
1869	July.	0.9	0.8	1.3	1.4	1.2	1.3	1.1	2.3	4	S. and SW.
1869	Sept.	0.5	0.2	0.2	0.4	0.5	0.1	0.3	3.1	4	SE. NE. S. SW

2.—Monthly Mean of Temperature, Fahrenheit.

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	July.	70.8	81.7	86.1	87.0	83.3	75.4	80.7
1869.	Sept.	72.6	82.0	86.8	88.5	84.7	77.9	82.1

3.—Monthly Mean of Relative Humidity.

1869.	July.	87.5	66.4	60.7	58.2	66.5	82.3	70.3
1869.	Sept.	88.2	73.4	67.8	63.1	70.1	82.9	74.2

July and August, our two hottest months, exhibit as their average temperature, July 79.0 F., and August 76.5. But in this year, full of anomalies, July with 78.0 was the cooler, and August with 79.4 was the warmer of the two months. The highest point which the thermometer reached was by no means excessive, in July 97.0, and in August 97.5. But in the latter half of August the temperature above 90° was so constant and the atmosphere so saturated with moisture, that it depressed, relaxed and weakened our nervous systems more than a higher temperature with a drier air would have done. Cases of sudden death from apoplexy and sunstroke were therefore very frequent. Infants too, suffering from summer diarrhœas, were sooner prostrated. But, as no epidemic prevailed, the mortality was after all not considerable; and since towards the end of August a thunderstorm with copious rain cleared the sky and opened as it were the gates of Indian summer, the health of the city may be considered again as good as usual.

The quantity of rain in July, 2.49, was less than its average, 4.17; while that in August, 5.51, exceeded its average, 4.15.

Positive atmospheric electricity was, as usual, in both months very low, but especially so in August.

**THERMOMETRICAL OBSERVATIONS MADE ON AUGUST  
7, 1869, IN NORTH ST. LOUIS,**

By Dr. CHAS. O. CURTMAN,

*Professor of Chemistry, Missouri Medical College.*

We are indebted to Prof. CURTMAN for the interesting table given below, exhibiting the effect of the *solar eclipse* on the thermometer exposed to the direct rays of the sun. The observations need no explanation; but we will add the remark of the author in a note to us, that "the most interesting feature in making them was, to me, the singular promptness with which even a very slight hazy cloud depressed the temperature."—ED.

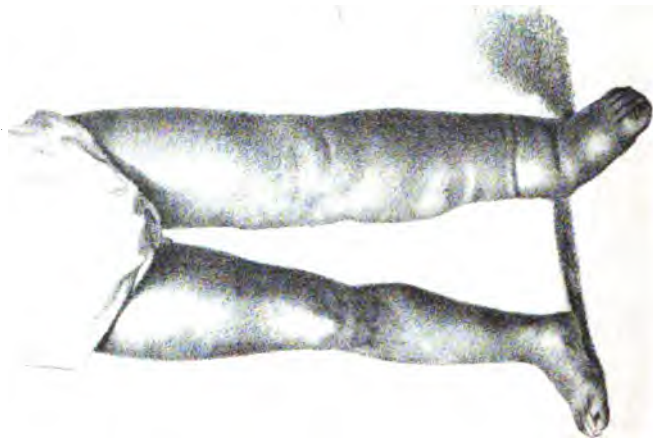
TIME, P. M.		THERMOMETER		REMARKS.
		Exposed to direct rays of Sun.		
Hours.	Minutes.	Degrees Centigrade.	Degrees Fahrenheit.	
4	12	39.00	102.2	From 4 hours 4 minutes the Thermometer was stationary in open sunlight, sky clear.
4	18	35.00	95.0	
4	20	33.00	91.4	Clouds of various thickness passing over the sun, causing rapid fluctuations.
4	22	34.00	93.2	
4	24	35.00	95.0	Clearing off.
4	26	35.00	95.0	
4	28	35.25	95.5	Clear.
4	29	35.00	95.0	"
4	30	34.75	94.6	"
4	34	34.50	94.1	"
4	36	33.25	91.9	Clouds passing quickly.
4	39	31.25	88.3	
4	43	31.25	88.3	Perfectly clear.
4	46	31.00	87.8	
4	50	30.25	86.5	" "
4	52	29.25	84.7	" "
4	54	28.75	83.8	" "
4	56	28.50	83.3	" "
4	56.30	28.00	82.4	" "
5	0	26.50	79.7	" "
5	2	26.00	78.8	" "
5	4	26.00	78.8	" "
5	8	26.00	78.8	" "
5	12	26.25	79.3	" "
5	15	26.50	79.7	" "
5	17	26.75	80.2	" "
5	20.30	27.00	80.6	" "
5	25	28.00	82.4	" "

After this the Thermometer was shaded so as to preclude farther observations.





**FIG. 1.**



**FIG. 2.**



**FIG. 3.**

THE SAINT LOUIS

# Medical and Surgical Journal.

NOVEMBER 10, 1869.

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## Original Communications.

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*AN AGGRAVATED CASE OF ELEPHANTIASIS ARABUM,  
Relieved by Ligation of the Main Artery, Compression and Elevation  
of the Affected Member. With Remarks and Illustrations. (Plate II.)*

By LOUIS BAUER, M.D., M.R.C.S. Eng., Professor of Surgery in the  
St. Louis College of Physicians and Surgeons, etc.

In June last, G. W., a Scotchman, afflicted with elephantiasis, was sent to me by a professional friend of this city.

His disease had commenced six years ago without premonitory symptoms, and had simultaneously attacked both scrotum and left inferior extremity, the patient being at that time in Australia. Its progress had been so rapid, and the affected parts had so soon become ponderous, that he was disabled from earning his livelihood. Returning to Scotland, he sought relief at the Royal Infirmary of Edinburgh, and thus became the patient of Prof. SYME. From an article of this distinguished surgeon, in the *Edinburgh Medical Journal* for November, 1866, I have derived the additional information, that on the 28th of August, same year, my patient underwent an operation for the removal of the tumefied and hypertrophied scrotum. It further appears that, during the after-treatment, the limb spontaneously

diminished so much in circumference "that there was hardly any trace of the enlargement."

In conclusion, Prof. SYME remarks: "Had the femoral artery been tied, this spontaneous improvement would doubtless have been attributed to a procedure that, so far as I can see, has no foundation on any sound surgical principle."

If these remarks of that great surgeon imply expectation of permanent relief of the limb, the disappointment is evident. For the patient alleges that shortly after his discharge from the Royal Infirmary, the extremity began again and continued to enlarge, until it had attained a monstrous size. He was once more forced to accept shelter and aid at a public charity.

On entering the St. Louis City Hospital, on 15th of June last, his case presented the following clinical aspect: Age 29 years; apparently robust constitution; sallow complexion; height 5 feet 5 inches; weight 140 pounds; pulse regular. 72 per minute; vital functions in order; premature tendency to obesity; a firm cicatrix, circumventing and retracting the penis, extending to within an inch of the anus, and into both groins; abnormally large and prominent mons veneris; inguinal glands neither swelled nor indurated. From the left groin downward the extremity presents a monstrous enlargement, which abruptly terminates below the ankle joint; at and below the knee there are multifarious nodules of different size and shape, the most massive being around the instep. The limb is thus rendered shapeless, and the muscular contours are entirely obliterated, the integuments and the subcutaneous adipose tissue so massive and firm as to prevent folding and sliding of the skin; the latter being of sallow and torpid appearance. Besides a fine furfuraceous desquamation of the cuticle, there is nothing remarkable on the surface. The temperature is slightly raised above the standard of the body. There is no tenderness or pain anywhere, nor has there been any at a prior period.



The subcutaneous veins can neither be seen nor felt. The femoral artery so deeply imbedded in morbid tissue as to render its pulse barely appreciable. Pressure of the finger leaves no indentation. There are no traces of previous or present ulcerations of the integuments.

The comparative measurement gives the following disparities :

Healthy extremity.		Affected extremity.	Difference.
Upper third of thigh,	20 in.	21 1-4 in.	1 1-4 in.
Middle thigh,	18 "	20 5-8 "	2 5-8 "
Lower thigh,	14 1-2 "	19 "	4 1-2 "
Knee joint,	13 1-4 "	18 "	4 3-4 "
Upper third leg,	12 1-2 "	20 "	7 1-2 "
Middle leg,	11 "	18 1-2 "	7 1-2 "
Lower leg,	8 5-8 "	13 7-8 "	5 1-4 "
Ankle,	9 1-2 "	15 "	5 1-2 "

The ætiology in the present case is entirely obscured. The patient asserts his freedom from syphilis and hereditary taint. Neither has he been subject to erysipelas, eczema, or kindred affections of the integuments which so commonly precede and accompany elephantiasis Arabum. I am not aware that Australia is particularly noted for the prevalence of this disease, or that it offers recognizable endemic or climatic causes.

In reference to the prognosis, I was naturally very cautious; I found, however, the patient well prepared for prospective disappointment, for he had the opinions of many prominent surgeons as to the utter hopelessness of his case, and as an intelligent man he fully accepted the operation as a legitimate experiment.

Having decided upon the ligation of the femoral artery, immediately below the profunda, I accordingly proceeded with the operation on the following day (16th of June).

I encountered similar difficulties, as other surgeons, pertaining to the deep seat of the vessel and its abnormal connections. In dividing the integuments and subcutaneous

structures, the same grating sound was noticed as in cutting or scraping the stroma of a scirrhus tumor.

The interference with the arterial circulation made no immediate impression upon the extremity, color and temperature remaining almost unchanged. When the patient recovered from the effects of the anæsthetic, he seemed to have no cause for complaint, either of numbness or pain, which frequently ensue under such circumstances. In fact, the patient felt every way so well as not to require special attention.

*June 18th.*—Collateral circulation is well established; the wound looks well. The circumference of the extremity is signally diminished, namely: at the lower third of the thigh 1 1-2 inches, at the knee 1 3-4 inches, at the upper third of the leg 2 5-8 inches, at the lower third 7-8 inches, and at the ankle 2 inches.

At this juncture it was considered safe to commence general compression, with ascendingly applied strips of stout adhesive plaster and flannel bandages. The limb was subsequently suspended in Prof. HODGEN's splint, which proved to be an admirable apparatus for the purpose.

This treatment was systematically continued. On the 18th day the ligature came away.

*August 13th.*—Again changed dressing; wound perfectly closed. Since the operation the limb has become smaller at the upper third of thigh 1 1-4 inches, at the middle 1 3-8 inches, at lower 4 inches, at the knee 3 5-6 inches, upper third of leg 5 7-8 inches, at middle 4 1-2 inches, at lower 4 3-4 inches, at ankle 4 3-4 inches.

In comparing the dimensions of both extremities, it appears that the two upper thirds of the thighs are equal in size, that there is but a difference of 1-2 inch at the lower third, of barely 1 inch at the knee, of 1 5-8, 2, and 7-8 inches respectively at the leg, and but 1 1-8 inches at the tibio-tarsal articulation.

*September 24th.*—Since the ligation of the femoral artery more than three months have elapsed. The patient has

enjoyed most unexceptionable health, whilst his local trouble has been steadily decreasing. During the preceding six weeks he has been permitted to leave his bed, and has been employed in light out-door work about the hospital. This was done to test the permanency of the improvement. The only treatment he received since the last records has been a dextrine-bandage tightly applied to the affected extremity, which I had to remove to-day for the purpose of instituting the last examination. The bandage still fitted well to the leg; had however become loose about the knee and thigh. If there had been any tendency to œdema or new enlargement, the bandage could not have prevented it at the latter places.

After the dressings had been removed, the following conditions were noted as the results of the adopted treatment: the limb is materially lessened in its circumference, but its natural contours have not yet returned, the cylindrical form still prevailing. The borders of the various muscles of the limb cannot be clearly made out, and it seems from manipulation as if the musculature formed a connected mass, preventing to a certain extent the free action of the single muscles. Nevertheless, the general movements of the limb can be promptly executed by the patient without any apparent inconvenience, and to all intents and purposes the limb is useful and almost as serviceable as its fellow.

The consistence of the soft parts still remains too firm. Although the integuments permit a considerable degree of folding and sliding, nevertheless the skin is thicker and firmer than that of the other extremity; hence it is impossible to discern the subcutaneous veins, although the pulse of the femoral artery is quite distinct above the place ligated. The integuments are thickest and least elastic about the middle of the leg; it is at this region where I noticed moderate œdema and a mottled appearance. The temperature of the extremity is about normal.

As regards the circumference, there is no material difference; the thigh furnishes the same measurement at its

upper third as the other limb, whereas the circumference of the middle and lower third and of the knee is somewhat less than that of the healthy extremity. The middle third of the leg and the ankle-joint still exceed the opposite member by respectively an inch and an inch and a quarter.

From the circumstances under which the examination was made, it will be acknowledged that there was no undue preparation to affect its result. For, had the patient been kept in bed a day or two, or, had the examination been made at an early morning hour, I think the œdema of the leg might have been obviated, and the measurement would have proven the limb of equal if not less size than the other limb. This would have been a clinical fraud, giving rise to false conclusions. In order to keep the facts free from all artifice and incident, I examined the patient during my clinical hour at noon, and had him called from his work.

Nobody can deny that the ligation of the femoral artery has been most beneficial in the present instance in reducing the affected extremity to almost its ordinary size and temporary usefulness. But it is equally clear that the extremity has not as yet returned to its normal status. I would ascribe less importance to its present defects in contour and shape, but the still remaining changes in the consistence of the integuments and muscles must be looked upon with apprehension and doubt as to the permanency of the improvement. I shall keep my eye upon the patient for some time to come, and continue the compression of the limb by means of a lace stocking which has been furnished him by the authorities of the hospital, thus being able to report from time to time on the condition of the patient.

It would be a grave dereliction of my duty to omit my grateful acknowledgment for the kind, ready, and most efficient coöperation in the treatment of this case I have derived from the talented and worthy resident physician, Dr. E. A. CLARK, and his assistants.

REMARKS.—The proximate cause of elephantiasis Arabum, in common with many other diseases, is as yet

obscure; nay, even its remote causation is anything but perspicuous. In the torrid zone, where elephantiasis more frequently occurs than in our latitude, it is said to be usually ushered in by cutaneous inflammation, which leaves its marks behind, and a succession of similar attacks is often observed during the development of this malady.

However this may be, it is evident that in the foregoing case there were no such initiatory or aggravating symptoms. It is, therefore, justifiable to assume a different pathogenesis, although we are unable to penetrate its character.

Again, it is said that swelling of the adjoining lymphatic glands is invariably observed as the earliest sign of elephantiasis. If such had been present in G. W.'s case, it must have been either so insignificant or so deep-seated as to have escaped his attention. There was certainly no trace of such swelling when I took charge of the patient.

The pathological anatomy of elephantiasis seems to be agreed upon. The most prominent pathologists, ROKITANSKY, VIRCHOW, FÆRSTER, RINDFLEISCH, and others, believe that the disease starts as an inflammation of the lymphatic apparatus, that at an early period the glands become impassable to the flow of lymph, which is thus forced to transude into the tissues, where it subsequently gives rise to the hyperplastic formations so graphically delineated in the "Pathological Histology" of RINDFLEISCH.

Some authors, in support of this theory, refer to marked varicosities of the lymphatic vessels, which, however, RINDFLEISCH has failed to observe in two advanced cases subject to his examination.

I am not disposed to dispute these views. They are probably well substantiated by undeniable facts, as they are vouched for by accredited names. Notwithstanding the profound respect in which I hold the pathological rulings of those illustrious men, it would seem to the clinical observer that the propounded views are totally inadmissible in the case under consideration. Without a goodly stretch

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of the imagination, there appears nothing that could be construed into lymphangitis and lymphadenitis, unless the almost inappreciable rise in the temperature of the limb is deemed sufficient evidence. For the existing hyperplasy is not necessarily linked with inflammation, as the sarcomatous growths fully demonstrate. The case of our patient seems in every aspect an exception from the generality, except the bulky enlargement. If there is any such form as diffused sarcoma, it might be more appropriately classed with the same.

The prevailing vagueness in the treatment of elephantiasis Arabum is but the natural reflection of our limited knowledge of its proximate cause. Medication has been found worthless by experience, and few practitioners deem it worth while to resort to it anew.

Quite a number of external remedies have been persistently and vainly tried. The excision of longitudinal strips of skin has been suggested and practiced, if I am not mistaken, by DIEFFENBACH, with a design of producing contracting cicatrices. A well-fitting lace stocking might have proven as serviceable as that tedious and painful procedure.

The successful experiments by DUFOUR,\* in five cases, with compression of the femoral artery by a kind of truss, had escaped attention, nor had the bearing of STROMEYER's† proposition upon the treatment of elephantiasis been appreciated at all. He proposed ligation of the femoral artery in aggravated cases of varicose veins, for the purpose of equalizing the arterial with the venous circulation.

When, in the year 1851, Prof. CARNOCHAN suggested ligation as a remedy for the relief of this monstrous disease, most surgeons contented themselves with the employment of rest and general compression of the affected parts as a

\* *Gazette hebdomadaire*, 1863, p. 547. "M. DUFOUR fait remonter à trente ans ses premières tentatives."

† *Handbuch der Chirurgie*, I, p. 371 (1844.)

palliative. The first operation of this kind was performed with most decided benefit by that talented surgeon on the 22d of March, 1851, terminating in the cure of a German who had suffered from this disease six months. Notwithstanding this encouraging result, Professor CARNOCHAN's recommendation did not excite the interest nor meet the favor of the profession. What Prof. SYME thinks of the ligature we have learned from his own pen. The venerable Prof. GROSS is still waiting for further developments, meanwhile observing the policy of masterly inactivity.

More than 18 years have elapsed since the introduction of the ligature as a therapeutical agent in elephantiasis Arabum, and but 22 operations have been performed with a view to its relief, certainly a very small number compared with the frequency of the disease. Considering the fact that American surgeons have almost entirely and conspicuously ignored the ligature in elephantiasis Arabum, it seems but just to the meritorious author to call once more the attention of the profession to this serviceable operation by adding a new proof of its usefulness.

Dr. GEO. FISCHER,\* of Hannover, has materially facilitated my task in collecting all the recorded cases of this malady, and I have availed myself of his diligent research in a liberal manner.

(Since the collation of Dr. FISCHER's table, CORKLE and HILL have published a case in the *London Lancet* (1868) of successful compression of the femoral artery in a case of elephantiasis Arabum of 14 years standing, aggravated by tortuous veins and swelling of the inguinal glands.)

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\*VIRCHOW's Archiv für pathologische Anatomie, Berlin, 1869. Band 46, Heft 3. p. 328.

Chronological Table of Known Cases, exclusive of DUFOUR's, collected by Dr. GEO. FISCHER, Hannover.

NO.	AGE, SEX, ETC.	ELEPHANTIASIS.	LIGATURE.	RESULT.	SURGEON.
1.	C. R., æt. 27, male, Aachen, Prussia, emaciated.	Right lower extremity, six mos. standing; three months' treatment with various means ineffectual.	Ligature of fem. art. below the profunda, 2d March, 1851; ligature drops off on the 11th day; hæmorrhage; ligature of external iliac; renewed hæmorrhage arrested by compression of the distal end of the femoral; cured in 3 months.	Cure permanent after 16 months.	CARNOCHAN, (Contributions to Operative Surgery, 1868.)
2.	Middle age.	Foot.	1852, ligature of anterior tibial artery.	Cure.	STATHAM, <i>ibid.</i>
3.	F. P., æt. 39, male, Italian, weak and cachectic.	Left leg, of six years duration; multifarious ulcerations; difference in size from 3 to 7 inches.	2d May, 1857, arteria femoralis in Scarpa's space; ligature came off on 34th day; 3 months after discharged cured; relapse in 1858; entered Penn. Hospital without relief; discharged 159.	Relapse after 14 mos.	CARNOCHAN, <i>ibid.</i>
4.	O. B., æt. 25, female, Ireland, robust.	Right lower extremity, to the middle third of thigh, 5 yrs. duration; difference from 1 1/2 to 3 in.	12th December, 1857; femoral artery in Scarpa's space; ligature came away on 28th day; 14 days after limb diminished from 3 1/2 to 2 1/2 in.	Cure affirmed after 1 month.	CARNOCHAN.
5.	C. P., æt. 26, female, Ireland.	Both lower extremities; of 3 years standing.	Jan. 30, 1858, arteria femoralis dextra; ligature came off on 23d day; improvement; patient insists upon the 2d ligature; performed on the 17th April, 1858.	Decided improvement 2 1/2 months after the first and 11 days after the second ligature.	CARNOCHAN.
6.	Æt. 42, female, American.	Eleph. Græcorum; face much swollen and nodulated since 14 years; right eye and meatus closed; no smell; lips so unwieldy as scarcely to pass a teaspoon.	Nov., 1858, art. carotis communis dextra; operation difficult; in 14 days patient can see and hear on the right; ligature came off on the 28th day. After 6 months, ligature of the left common carotis; some nodules separately removed. No disturbance of cerebral functions.	Cure confirmed after 8 years.	CARNOCHAN, <i>American Journal of the Med. Science</i> , July, 1867, pp. 108-115.
7.	Æt. 26, male, negro.	Leg and foot enormously enlarged; duration 5 years.	1859, arteria femoralis. In 24 hours largely decreased.	Cure after 3 months.	O'GIER, <i>Charleston Med. Jour.</i> , N. ch. '60.
8.	M. D., æt. 44, female.	Right leg since 18 years; difference from 2 to 8 inches. Protracted and ineffectual treatment; desired amputation.	Nov. 25, 1861, art. fem. 1 1/2 in. below Poupart's lig.; very difficult on account of deep situation; ligature came off on 31st day; compression of limb and application of iodine ointment.	Cure confirmed after 4 years and 15 months.	BUTCHER, <i>Dublin Q. Jour. of Med.</i> , Vol. 36, 1863, p. 208, with illustrations.
9.	Æt. 28, female.	Left lower extremity up to the body; since 13 years; ineffectual treatment.	Dec. 5, 1863, art. femoralis at the groin; decrease of 5 cm. in a few days; compression of the limb for 5 weeks.	Cure confirmed after 3 months.	RICHARD, <i>Gaz. des Hôp.</i> , 1864, No. 86, p. 142.
10.	Æt. 30, male, Hindoo.	Right leg, since 7 years.	Feb. 25, 1855, art. fem. at lower apex of Scarpa's space; ligature came off on 17th day; death on 18th from pyæmia.	Death.	J. FAYRER (Calcutta), <i>Edinburgh Med. Jour.</i> , Nov. 1866, p. 430.
11.			Art. femoralis. Decrease 5 inches.	Death	J. FAYRER, <i>Jour. Cutaneous Med.</i> 1. p. 187.



12.	M. T., æt. 25, female.	Left lower extremity, since 10 years; after scarlatina; 2 years' ineffectual treatment; difference from 7 to 9 inches; no pulse felt in femoral and anterior tibial art.	Oct. 31, 1865, external iliac artery; ligature away on 15th day; in 8 days circumference reduced 3 inches; continuous decrease; circumference in four and a half months almost normal.	Cure confirmed after 7 months.	TH. BRYANT, <i>Med.-chir. Transact.</i> , vol. 49, 1868, p. 175, two illustrations.
13.	Æt. 17, female, healthy.	Leg; since 3 yrs. from a dog's bite; with tenacious ulcerations.	Dec. 21, 1866, external iliac artery; on the 4th day decrease from one to five inches; ligature away on the 13th day; discharged with a decrease from three to eight inches; the same measurement after 5 months.	Probable cure; confirmed after 1 month. Relapse after eleven months.	ALCOCK, <i>St. Bart's Lancet</i> , M'ch '68, p. 314. G. BUCHANAN, Glasgow, <i>British Medical Journal</i> , 1867, p. 465.
14.	Æt. 21, female.	Right lower extremity; since 7 years; difference from 3 to 10 ctm.	March 13, 1861, digital compression of femoral artery for 9 to 12 hours at a time on 4 successive days; on 6th day leg decreased 1 ctm.; integuments softer; compression suspended for 4 days; resumed; circumference growing less; had to suspend it 10 days more on account of fever and headache; resumed again for 4 days, 12 hours each; in fine compression by dextrine bandage; discharged in six weeks.	Improvement.	P. H. WATSON, Edinburgh. Referred to by G. BUCHANAN, <i>ibid.</i>
15.	Æt. 23, female, German, healthy.	Left lower extremity; since 8 years; pulse of femoral scarcely perceptible; difference from 16 to 29 ctm.	May 9, 1868, external iliac; rendered difficult by copious fat and hardness of transverse fascia; applied two ligatures, between which the artery was cut; ligatures away on the 10th and 14th day respectively; moderate peritonitis; the following day after operation decrease from 3 to 9 ctm.; in 3 weeks from 14 to 20 ctm.	Cure confirmed after 3 years; the affected extremity of less circumference than the healthy.	C. HUKTER, <i>Archiv. fuer klin. Chirurgie</i> , Vol. IX, p. 987, 1868.
16.	Æt. 41, female.	Left leg and foot; since 31 yrs.	May 28, 1868, femoral artery, 3 inches below Poupart's lig.; after 3 months the calf 1 1/4 inches smaller.	Almost perfect cure; confirmed after 3 wks.	T. SIMPSON, <i>St. Bartholomæ's Hosp. Rep.</i> , Vol. IV, 1868, p. 265.
17.	M. Z., æt. 20, female, German.	Left lower extremity; since 4 years; right limb since 1 year 2 mos.; improved by tinct. iodine and com. by bandages; relapse.	June 20, 1868, left external iliac; decrease of circumference of both limbs; moderate general attenuation of the body.	Relapse after 8 mos.	SIMON, <i>Heidelberg. Virch. Archiv</i> , V. 40, p. 246.
18.	C. D., æt. 31, male, German; strong.	Entire left lower extremity; since 12 years; annular ulceration on leg; difference from 5 to 10 ctm.; pulse scarcely perceptible.	Nov. 6, 1868, femoral artery; immediately below Poupart's lig.; rendered difficult from depth; considerable bleeding; ligature off on the 20th day; no decrease on the 16th, on 20th and 31st day; 167 weeks small pox; ulcer almost closed in 3 months; circumference unchanged.	No change in circumference.	BAUM, <i>ibid.</i>
19.	F. G., æt. 38, female, German; emaciated and sickly.	Left leg; since 33 years.	Nov. 19, 1868, fem. art. below profunda; on 3d day gangrene; on 14th day amputation; ligature away on 14th day; at the end of 2 mos. complete closing of the wound confidently expected.	Gangrene.	BAUM, <i>ibid.</i>

From the preceding tables it appears that 22 ligatures had been made in 21 cases of elephantiasis, and that in one case digital compression of the artery had been tried with good effect.

As to the eventual results achieved by ligature, we notice eleven cures, two marked improvements, and seven failures. Inasmuch, however, as relapses had taken place as late as eight, eleven, and fourteen months respectively, the stated cures after one month and three months must be received with reservation. Positively but four cures are vouched for by respectively eighteen months, three, four, and eight years' duration.

Among the failures, there is one in which there was no appreciable change wrought by ligature, three relapses, one gangrene, and two deaths.

BAUM's case (20) stands among all the known cases in exceptional bold relief.

Relapse ensued after fourteen months in that reduced patient (3), when the hardened tissues had become quite soft and pliable, the ulcerations healed up, the member attained almost normal proportions and usefulness. In another case (14), the relapse appeared at the end of eight months, and set in with repeated attacks of erysipelas.

The third relapse occurred in the 19th case, without apparent provocation, eight months after the ligature.

There was but one case of gangrene (21) rendering amputation necessary.

It is remarkable that both cases (10 and 11) of death occurred in the practice of Prof. FAYRER, and which unfavorable result is, according to WILSON, attributable to endemic and noxious influences. In one of them, the circumference had lost five inches by the use of ligature.

The number of cases in which the ligature of the main artery has been tried is altogether insufficient to determine its full therapeutical value. That it is no infallible remedy in elephantiasis is proven, but that it is a most valuable auxiliary and palliative is equally clear.

So far as statistics serve, more than 25 per cent. of the patients have derived permanent relief from the ligatures, and this per centage may yet be enhanced by others, kept in abeyance for prudential reasons, including my own case. With the exception of four cases, the ligature had the most signal alleviating effects upon the balance remaining, and this in a comparatively short time. With all due caution in the estimate of the operation, its serviceableness in the treatment of elephantiasis is undeniable, and deserves the favorable consideration of surgeons.

Whether the ligature is destined to be superseded by compression as practiced by DUFOUR and VANZETTI, remains to be seen. If the prevailing pathological views on elephantiasis Arabum are correct, I cannot conceive how general compression and rest of the limb can be of any material service in permanently relieving the disease. In every case of this description there is probably more or less œdema aggravating the local condition by increasing the bulk of the invaded parts. If the lymphatics are obstructed by the intumescence and impermeability of their respective glands, they are certainly not in a physiological condition to absorb and carry off the transfused liquid material, and the lumina of the veins are obviously so encroached upon by the indurated and unyielding tissues surrounding them, that they seem to be more or less disqualified from subserving the process of absorption. But by what *modus operandi* compression and rest shall effect the removal of the organized hyperplastic material, is indeed utterly incomprehensible.

I am not familiar with the construction of the compressorium employed by DUFOUR in his five cases, but I fully realize the difficulties of effecting the exclusive compression of the femoral artery by mechanical means, without at the same time compressing the femoral vein and the lymphatics of the same region. There is consequently an irreconcilable bias between pathological views and therapeutical results. On the other hand, if we assume the proximate

cause of elephantiasis Arabum to be hyperplasy and its ulterior results, the ligature of the main artery to the parts so affected appears the most rational remedy, both in theory and practice, as proven by numerous instances in which the ligature was employed for similar purposes, and Dr. CARNOCHAN is certainly entitled to the merits which this suggestion so eminently deserves.

1116 Pine street, St. Louis, Sept. 26, 1869.

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*Explanation of Figures—(Plate II.)*

[Fig. 1 has been copied from the *Edinburgh Medical Journal*, November, 1866, representing the condition of the patient previous to the operation of Prof. SYME.

Fig. 2 was obtained from a photograph taken on the 15th of June, 1869, the day previous to the operation.

Fig. 3, from a photograph taken on the 25th September, 1869.]

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*A CASE OF BENDING AFTER UNION OF FRACTURE OF  
FEMUR—REFRACTURE AND CORRECTION OF  
DEFORMITY.*

By JOHN T. HODGEN, M.D., Prof. of Anatomy, etc., St. Louis Medical College.

T. J. L., æt. 42, robust, man of active habits, had his left thigh fractured below the middle on the 22d day of December, 1867.

The fracture was treated with LISTON's long splint, which remained on until the 33d day, when it was removed and the limb found perfect in length, but the lower fragment projecting a little. Starch bandage applied, and the patient directed to exercise on crutches. The starch bandage removed on the 48th day after fracture, and the limb found short, and bent outward and forward. Patient began walking on the limb, having the physician's assurance that it would be "all right,"

On the 12th day of September, 1868, Mr. L. presented himself to me, with limb short two inches, angling at site of fracture outward and forward, the lower fragment overlapping the upper. The patient was quite lame; was forced to carry a cane, the bend in the limb allowing the toe of the left foot to strike the right in walking.

Assisted by Dr. ROBERTS, of St. Luke's Hospital, Dr. S. H. FRAZER, and others, the patient was put under chloroform and the fracture bored at six points as near the site of fracture as possible; then by using great force, the bone was broken and extension by SWAINBURN'S method made. The opening in the soft parts was closed with lint, moistened with persulphate of iron.

*September 13th.*—Patient comfortable; no constitutional disturbance; limb a little painful.

*September 14th.*—Finding the limb not straightening as I had wished, I applied an elastic bandage around the point of fracture, carried the two ends under the opposite thigh, and fixed them to the bed rail.

*September 16th.*—Limb is longer by half an inch and nearly in line; patient comfortable.

From this time the case progressed favorably; weight was continued, and lateral pressure kept up. At the end of three weeks the limb lacked but half an inch of being as long as the other, and the line was good.

The patient was kept in bed until the 10th of November, when he was allowed to walk with crutches.

The knee was now quite stiff and somewhat swollen; passive motion directed, with friction. The callus was large, but the line good, and as the patient walked, simply touching the foot to the floor, the foot did not strike against the opposite.

Two months later the patient was walking without crutches, and was discharged with the limb much improved, it being only from one-half to three-quarters of an inch short and the line good, so that with a high heel the patient walked with scarcely a perceptible limp.

The practical deductions from this case are :

1st. Patients having fractured thighs should be kept in bed until the callus is quite firm, and as this fact can never be certainly determined, the patient should be watched for several weeks after he is allowed to use his limb, and if the callus be yielding it should be remembered—

2d, That a callus that will yield to the weight of the body and the action of muscles will also yield to splints, extension, etc., so that in every case, if taken in time, the deformity may be corrected.

No one who treats a fracture of the thigh is sure the result will be good until the callus is entirely firm, and there is no time at which we can say it is entirely safe to remove dressings.

We may restore suddenly and violently the limb to its proper shape, by bending or only partially fracturing the not yet perfectly firm callus, but when three months have passed and the union is complete and new formation perfectly solidified, great force must be used such as would endanger other than the former site of fracture; then of course it is well to weaken the callus by subcutaneous boring or drilling. When this is done it is always well to seal the wound, and make a simple out of a compound fracture. This can often be done notwithstanding many small fragments are left in the wound, these fragments doubtless becoming absorbed after solution in the liquids of the body, or, it may be, gaining by imbibition the nutritive materials for the continuance of their vitality.

#### *UNUNITED FRACTURE OF HUMERUS—OPERATION AND CURE.*

By JOHN T. HODGEN, M.D., Prof. of Anatomy, etc., St. Louis Medical College.

H. D., a robust man, a farmer by occupation, aged 56, had his right humerus fractured by a blow from a knife in November, 1868. The knife blade was broken, and the

point was never found. It was supposed to have remained in the wound.

In February, 1869, the bone not having united, Dr. P. operated, as I learned from the patient, by drilling, and then encasing the arm in plaster splints. This failed to accomplish the design, and subsequently Dr. R. used spikes of metal. This, too, failed. Near the last of May, 1869, Mr. D. presented himself to me.

The bones moved freely one upon the other, and the arm could not be lifted without the aid of the other hand. The fore-arm and hand were in good condition; the muscles of the shoulder and arm were much atrophied. On the 29th of May, assisted by Drs. CLARK, McDOWELL, MUDD, and others—the patient being under chloroform—I made an incision four inches in length parallel to the line of the division between the pectoralis major and deltoid muscles, and through the latter muscle. Coming down upon the bone, I found an oblique fracture beginning one inch below the head of the humerus on the inner side, running obliquely downward and outward, terminating a little above and to the outside of the insertion of the deltoid.

The tendon of the pectoralis was found running across in front of the fracture, and attached to the upper and outer fragment. It was found necessary to detach a part of this tendon in order to get at the fractured surfaces.

A quantity of fibrous tissue was found between the fractured surfaces, but so long and loose that the parts were freely movable one on the other. The lower fragment being turned inward by rotating the lower part, a free cut was made in the line of the fracture.

Now two incisions were made, one on the middle of the face of each fractured surface in its length down to the bone, and the fibrous tissue turned backward and forward, so that the bony surfaces could be brought together through the entire extent of the fracture (3 1-2 inches).

By means of a drill, I made holes beginning outside of the periosteum and perforating it about three-quarters of an

inch from the fractural margin, and terminating about the same distance from this margin on the fractured surface,

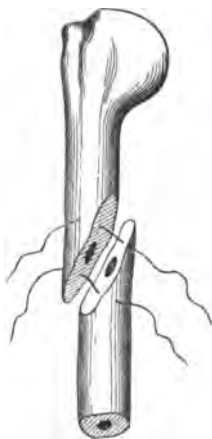


Fig. 12.

two in each fragment, and each about one inch from the end of the fracture, and consequently about one inch and a half from each other. A strong annealed iron wire was now passed from the periosteal surface through the upper hole on the outer and upper fragment, and continued from the fractured surface through the upper hole in the inner and lower fragment. Another wire was passed in the same way through the lower openings. The fibrous tissue was then carefully kept from between the

fractured surfaces, and these brought together, the wires tightly drawn and twisted, holding the fractured surfaces in contact without any intervening substance. The wound was brought together with adhesive plasters, leaving the twisted ends of the two wires projecting.

Several hours after, Dr. CLARK neatly covered the forearm, the arm, and shoulder with plaster splints covered with bandage, leaving an opening for discharge at the site of wound. Very little constitutional disturbance followed.

*June 6th.*—Parts about wound swollen, red, and wound suppurating freely.

*June 12th.*—Swelling has subsided, and suppuration much diminished; wound nearly closed.

*July 2d.*—Bone united; ligatures still fixed; wound all closed, except immediately in contact with wires.

*July 5th.*—Cut off the wires close to skin and allowed the patient to go home, one hundred miles in the country, still keeping the splint on. Received the following letter:

WINCHESTER, *August 4, 1869.*

DR. HODGEN:

I examined Mr. D.'s arm this morning. The union of the bone at the point of fracture is complete (perfect, I think), and he is fast regaining



the use of his arm, but there seems to be a difficulty at the articulation of the head of the humerus. It may be only from relaxation of the ligaments and muscles connecting it, but still the head does not work quite right. He cannot raise his arm straight out from his body and at a right angle therewith, without moving his whole body and lifting his shoulder, and when his arm comes down again and the deltoid is relaxed, the head of the humerus seems to slip down from its socket an inch or so. He is using his arm, however, more and better every day.

The wire at the upper suture was taken out a few days after he came home. The lower one, though, I have tried several times to take out, pulling quite hard upon it with forceps, but could not get it out. What shall I do with it?

Yours, etc.,

J. MINER.

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*DYSMENORRHÆIC EPILEPSY AND STERILITY—OPERATION AND CURE.*

By MONTROSE A. PALLAN, M.D., Prof. of Gynæcology in the St. Louis College of Physicians and Surgeons.

In the month of November, 1867, I was requested by Dr. F. V. L. BROKAW, of this city, to see a patient under his charge who had for some fourteen or fifteen years labored under dysmenorrhœa, attended by marked epileptical convulsions.

Whenever the menstrual nîsus was present, prior to and during the flow the patient would shriek with pain, which was immediately followed by a loss of consciousness, distortion of the features, knitting of the brows, clenching of the teeth, frequent bitings of the tongue, tossing about of the limbs, firm clenching of the hands, and foaming at the mouth: in fact, a marked epileptical attack. These attacks were more or less violent, rarely so slight as to come under the head of the "*pétit mal*" of the French, but most frequently very severe, and lasting during the entire flow. During some of these periods the patient would relapse from one convulsion to another for three or four days, and at others the first attack of the epilepsy would be followed by catalepsy, lasting many hours. Her history was as follows: Age 29; figure remarkably well developed, as

she was a *danseuse* by profession ; had aborted in her 15th year. The "fits," as she termed them, made their first appearance at the first menstrual period following the miscarriage—the dysmenorrhœa was always of the severest type during the whole time. Prior to the pregnancy and abortion she had menstruated for nearly two years quite regularly and free from pain.

Dr. BROKAW had made the proper examinations previous to my seeing her, and recognizing an unusually small os uteri, and finding the cervix very hard and whitish, correctly pronounced that the dysmenorrhœa was evidently owing to some stricture of the uterine and cervical canals.

We placed the patient in the semi-prone position, and passed a small probe to the cavity of the uterus (digital examination and hypogastric palpation having previously revealed that no flexion whatever existed) without any difficulty, but as soon as the point of the probe was impinged against the fundus, our patient was seized with an attack decidedly epileptical in its nature, from which, however, she soon rallied. Here then was the explanation of the epilepsy, eccentric in character, reflex and symptomatic, and thoroughly illustrative of the views of BROWN-SÉQUARD that the fit is the expression of irritability conveyed to the spinal centres from a nidus or focus outside.

The physical configuration of the uterus clearly indicated that the dysmenorrhœa was obstructive, and coincident with this condition of stricture of the canals there was endometritis. Oozing from the external os was the ropy tenacious bloody mucus always found in endo-metritis, so stringy that it could be wiped away only by repeated efforts, and when removed, there was revealed the slightest amount of the endo-cervical membrane, which however was intensely red and granulated.

The patient had been treated from Boston to New Orleans, and always without any relief. She was in despair, and gladly consented to the proposal of surgical interference, feeling confident that if she could be cured of the uterine

trouble, her epilepsy and dysmenorrhœa would, in all probability, be likewise cured. We waited for another menstrual period, which was to recur the next week. On the third day after the cessation of the menses, in the presence of Drs. BROKAW and PREWITT, I divided the cervix uteri and internal os bilaterally, and treated the patient as is usually done in such cases. No epileptiform convulsions occurred after the incisions had been made, when the probe was introduced into the cavity of the uterus, as had taken place prior to the cutting. When the plug within the os internum came away from suppuration, the cavity was well cleansed by cotton wrapped on the applicator, and chromic acid applied. Hot water vaginal douches were kept up until the next menstrual period came on, and which was ushered in by the usual epileptiform convulsions. I confess I was somewhat staggered by the appearance of the convulsions, and administering chloroform, proceeded to examine the cavity of the uterus, and found the os internum completely closed by the thickened mucous membrane, and the probe could scarcely be introduced where a couple of days previously a large-sized sound (No. 41, French measurement,) had passed with great ease, and which gave rise to no pain. I thought that a free efflux of the retained menstrual secretion would possibly relieve her, so I scarified the internal os quite freely. This was followed by a smart flow of blood, and when the patient recovered from the chloroform, she felt quite comfortable. Had I suspected what was to follow, I might have avoided it by keeping a flexible gutta percha catheter or tube just within the os internum, which would have prevented a subsequent closure and would have favored the efflux of blood. In six or eight hours after, the convulsions came on again, and another examination revealed the constriction as firm as ever. No farther incisions were made, and the patient was chloroformed occasionally, and large doses of bromide of potassium given until the cessation of the menses. No benefit accrued from the medication.

Two days afterwards the uterus was again examined, and SIMPSON's sound passed easily and attended with very little pain. Thus far the focus of irritation had not been reached, and both Dr. BROKAW and myself deemed it proper to persevere. Chromic acid was again applied, followed in about ten days by the compound tincture of iodine. The discharges from the neck and the body of the womb were very much improved, as well as the sensitiveness of the lining membrane. The patient was cheerful and hopeful, and had great faith in her ultimate recovery. Two or three days prior to the next ensuing menstruation, some *monster* sponge tents were introduced, and on the evening of the day prior to her menstruation, so much dilated was the neck and internal os that I readily passed my finger to the very fundus. We awaited the next day with great anxiety, when to our utter amazement the epileptiform convulsions came on with the flow, and were as bad, if not worse, than ever. An examination revealed the uterus more firmly contracted than ever, and the constriction about the internal os equally resistant. During the four days of menstruation we were with her very much, and attempted to mitigate her sufferings by such antispasmodics and anæsthetics as had been used before. They were of no avail; she suffered as much as ever. The day after the cessation of the flow she was again examined, and the SIMPSON's sound passed with ease, and painlessly. The operation of dividing the neck had, as an operation, been successful, for it gave us a free entrance to the cavity of the womb, from which we had been debarred without it. The two last menstruations still more firmly convinced me that the source of epileptic irritation was seated in the lining membrane, and Dr. BROKAW coincided with me; and acting on such belief, I wiped out the cavity of the uterus with strong acetic acid, applied by the cottoned-applicator, every fifth or sixth day until the next menstruation set in, using at the same time enormous quantities of very warm water douches to the vagina and cervix uteri.

The third menstruation was at hand, and we awaited it with great solicitude—but victory was ours, for the patient knew nothing of it until she discovered her linen stained with blood, and not until the fourth day did she manifest any trouble, when the very slightest pain and uterine spasm manifested itself; and there was no constitutional disturbance. Three days after the cessation of the menses sexual intercourse was indulged in, and that for two nights only, as the husband left the city on the third day. She was pregnant, as morning sickness manifested itself at once, and we judged that our work was complete. Two years have now rolled by, and our patient has borne one child, is again pregnant, and has never since had the least shadow of epilepsy.

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*CASE OF RETRO-CURVATION AND OSSEOUS ANCHYLOSIS OF LEFT KNEE JOINT, AFTER A PENETRATING WOUND. With Illustrations.*

By LOUIS BAUER, M.D., M.R.C.S. Eng., Professor of Surgery in the St. Louis College of Physicians and Surgeons, etc.

The patient in this rare and interesting case is a young and powerful man, 24 years old, whose excellent health has only once in his life been disturbed by sickness.

When 12 years of age he received a stab from a sharp and pointed knife, which entered the knee at its inner aspect, close to the articular surface of the femoral condyle. With such force had the blow been given that the knife stuck in the bone, and was removed with difficulty. The injury was looked upon with alarm, the patient sent to bed and kept at rest several days, during which, however, the wound closed and pain subsided. No further trouble being apprehended, the boy was permitted to resume locomotion.

Seventeen days after the occurrence, the patient was attacked with scarlatina, evidently of a mild type, which took the ordinary course. Whilst this disease prevailed, the injured knee became painful, swelled and discolored.

The new complication being ascribed to the virulence of the scarlatina, little attention was paid to it, and it was confidently expected that with the subsidence of the one the other would likewise yield. This supposition proved to be erroneous, for the inflammation of the knee-joint took its own independent course, made rapid strides towards suppuration, and eventually several openings formed, freely discharging pus. Incessant pain, loss of appetite and rest, and constitutional disturbances, besides the copious discharge, soon reduced the patient in weight and strength, and kept him confined for many months, with little or no hope of final recovery ; but as soon as he felt recuperated he insisted upon leaving his bed, and moved about on crutches. His energy and perseverance probably saved his life.

During the ensuing seven years his condition was variable, frequently disturbed by increasing pain and the formation of new abscesses. However, he managed to keep up and about, and yielded to no temporary aggravations. He might even have recovered with a straight and useful limb, but for the error of applying a sort of leather sling which he carried from around his shoulders to the fore part of his foot, which drew the latter forward and upward, and evidently furnished the direct cause to the subsequent retro-curvature.

When at last the fistulous opening had closed, and the joint assumed a more healthy aspect, he contented himself with a cane, and trusted, in a measure, the weight of his body upon the affected limb. He then became aware of the retro-curvature, but his medical counsel did not share his apprehension nor adopt preventative measures. Thus the retro-curvature was allowed to develop to its present extent, and to ankylose the knee-joint by the formation of new bone.

Since the discharge of matter stopped, his constitution has steadily improved, he has grown strong and massive, and at present enjoys an unqualified state of health.

In order to exhibit to advantage the mal-position of the extremity and its detrimental influence upon locomotion, I have caused photographs to be taken by Mr. J. A. SCHOLTEN, of this city, (*Plate III.*)

In fig. 1 the patient is seen in profile, and in the position which he is compelled to assume when walking. Inasmuch as the retro-curvation considerably shortens the left extremity, the patient is obliged to flex the other proportionately, and to place it in advance. He then raises himself on the healthy limb by straightening the same, swings the other forward, and rests upon this until the healthy leg has again taken the former position. Though the walk seems to the observer both awkward and laborious, nevertheless the patient states that he experiences little or no inconvenience, and that he is able to walk long distances, even miles, without being fatigued.

The angle of retro-curvation is about  $100^{\circ}$ ; there is an angle of  $130^{\circ}$  between the perpendicular of the body and the femur; the foot is likewise kept in moderate extension, which is obviously necessary for mechanical accommodation. Flexion of the foot is impeded by the permanent retraction of the extensor muscles inserting into the Achillis tendon. Whether this is the result of habit, or of the previous joint disease, cannot be determined. Probably the gastrocnemius muscle is so much on the stretch through the retro-curvation as to permanently elevate the heel.

In comparing the extremities, the bulky musculature of the right will be noticed in contra-distinction to the attenuation and loss of contour of the other.

Fig. 2 represents a dorsal view, in which the strong frame and well developed musculature is more prominently brought out. In this illustration the affected extremity appears to be larger than the other, which is evidently the effect of the shorter focus, for which due allowance must be made. In this position some very interesting mechanical points present themselves:

1st. The compensation for the shortness of the left ex-

tremity is effected by a slight flexion and adduction of the right limb, and by the declivity of the pelvis at the left side.

2d. The obliquity of the pelvis renders a simple lateral curvature, which has its greatest tension at the lumbar region, necessary, in order to bring the head in the perpendicular. The inflection of the body is strongly marked at the right side above the ilium.

3d. The gluteal fold is deepened by the extension of the femur, and stands lower than the right.

Fig. 3 presents the patient in a sitting posture, in which the thigh is horizontal and the leg turned almost perpendicularly upwards.

The pathogenesis of the case is exceedingly plain and perspicuous; there can be no doubt that the penetrating wound of the joint lies at the foundation of the trouble; it is even questionable whether the scarlatina has superadded to the violence of the symptoms. The commencement of the articular disease during the scarlatinous attack was purely coincidental, notwithstanding the closure of the wound, which is a common occurrence under similar circumstances.

The long duration and the extent of the suppuration had either destroyed or so softened the crucial and ligamentous apparatus of the knee-joint as to offer no obstacle in the way of retro-curvation, which was obviously initiated and forced upon the limb by the ill-advised mode of suspension.

The mal-position of the limb thus prepared grew steadily worse from carrying the weight of the body without sufficient support; under these mechanical circumstances, the deformity might even have exceeded its present degree had not the osseous ankylosis put an end to it.

The question as to the cause of the ankylosis is not without interest and practical value, to which, however, we can only give a speculative answer.

The original injury to the bone by the knife seems to have given no additional trouble. Probably the articular surfaces were denuded and granulating during the active



period of the disease. The ulterior result of this condition is commonly the organization of the granulating into sclerotic tissue which connects the articular faces, impedes the mobility, and eventuates in fibrous or false anchylosis. If, however, the surroundings of the articular faces are denuded, it generally leads, first, to the formation of the same tissue, which subsequently becomes the depository of calcareous substance, and thus constitutes bony splints which bridge the articulation over, known by the technical name of osteophytes. In the present case we have a complete cementation of the articular surfaces by bony material, which is rather massive at the posterior circumference of the joint.

That the bony anchylosis is not the direct result of the articular disease, must be inferred from the fact that the joint retained a certain degree of mobility during its entire course, and even after the cessation of the morbid process.

The bony anchylosis is, therefore, the inevitable result of the retro-curvature itself, and has consequently no direct connection with the disease. The direct pressure of one bone upon the other brings forth everywhere prolific formation of new osseous substance. Analogous observations are made in lateral curvature of the spine at the concave side of the curve, where there is no bone-disease.

In the interesting case of Dr. GRANT, to which I shall refer more fully hereafter, we meet the very same osseous cementation under conditions less inviting than in the case under consideration.

There can be no difference of opinion that the case of our patient has been totally mismanaged, and that his recovery with a straight limb could have been effected in a shorter period if appropriate means had been employed. It is to be regretted that the material advancement of surgery in this particular was entirely ignored.

Penetrating wounds of an articulation constitute most dangerous but nevertheless manageable injuries, provided they are viewed with a prospective eye, and the healing of

the same by first intention does not relieve from the necessity of enjoining rest upon the patient and of immobilizing the joint in an appropriate position. Had this been done in the present instance, probably the wound would have proved a most insignificant affair, and the integrity of the joint been preserved.

Although I am not aware that the ankylosis of the knee-joint in a retro-curvated position has ever been subject to treatment and operative interference, I do not conceive any difficulty in ameliorating the condition of the patient. The same operation which BARTON suggested for the ankylosis of the knee-joint in the flexed position may be adopted in the present instance with well-founded prospects of success. As a matter of course, the lines of division of the bone are to be reversed so that the base of the wedge to be removed should comprise the posterior aspect of the joint, and this operation is under serious consideration with the patient.

I should have deferred the publication of this case until the result of the contemplated operation was reached, but that I consider the case in itself so rare and interesting as to be acceptable to the reader in its present state. Moreover, it may impress the profession more profoundly with the necessity of taking early and preventative measures to obviate consequences so serious.

Retro-curvation is certainly the rarest of all deformities pertaining to the knee-joint. The case just related is, in fact, the first I have personally observed, nor do I remember that there are more than two cases of this nature on record, one by WM. ADAMS, Esq., of London, the other by Dr. T. E. GRANT, of Ottawa, Canada. The case of the latter bears the greatest similarity to mine, and I may be permitted to refer briefly to it.

The patient of GRANT had likewise suffered a penetrating wound of his left knee-joint during his boyhood, but was more fortunate than our patient in procuring prompt and efficient professional advice. The result of this treatment

was that he could leave his bed after ten weeks, and that in eighteen months the articulation was fully restored to health, retaining a perfectly straight position, with impeded mobility. At this time all mechanical support seems to have been removed, and the patient permitted to use his limb *ad libitum*. Being a good rider, and indulging freely in equestrian exercises, he had the misfortune to be thrown from his horse and wrench his knee. For a few days he had considerable pain, which however gradually subsided, and when he resumed his avocation the retro-curvation was noticed, and permitted to increase to a degree scarcely less than we have found in our case. In this condition he was placed under Dr. GRANT's charge at the general hospital at Ottawa.

Although that distinguished gentleman very properly recommended BARTON's operation, the patient insisted upon amputation, which was eventually and most reluctantly performed.

The knee joint was completely ankylosed by exuberant bony deposit.

The adjoining illustration (fig. 13) is an exact representation of the specimen, of which a plaster cast can be seen in the museum of the St. Louis College of Physicians and Surgeons.



Fig. 13.

*PELVIC ABSCESS.**With a Case Reported to the St. Louis Medical Society.*

By WM. S. EDGAR, M.D., St. Louis.

The patient from whom this portion of rectum\* was removed post mortem was a long time confined to his bed with a low grade of fever, and suffering acute pain in the lumbar and pelvic regions. Psoas abscess was diagnosed at first, but as no discovery of pus was made in the course of the psoas muscles, the case was in doubt until pus was discharged from the bowels, showing, if it had originated in the course of the psoas muscles, it had taken a different direction, and descended into the sub-peritoneal tissue of the pelvis back of the rectum, thence ulcerating through into the rectum.

When it was suspected an abscess had opened into the bowel, a favorable prognosis was indulged, and for twenty days the patient seemed to improve, when suddenly acute pain occurred in the lower part of the pelvis. All action of the bowels was suspended, and peritoneal inflammation set in, which soon terminated in death.

On post mortem examination, it was revealed that the walls of the abscess had given way, emptying its contents into the pelvic cavity, together with the contents of the bowels, which now passed through the opening from the alimentary canal into the sac of the abscess, and thence into the pelvic cavity.

Abscesses of less dimensions often form in the vicinity of the rectum, and discharge into it, or follow it down to the sphincter, terminating in fistula.

In the female they form more frequently in connection with the appendages of the uterus, either from extravasation of blood from rupture of vessels connected with its ligaments, or from the escape of blood from the Fallopian tubes; also from traumatic causes.

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\*The parts involved were presented to the Society for inspection.

The extreme importance of a careful physical examination of the entire topography of the pelvic region, until the exact character and location of the disease is discovered, is well illustrated in the following case :

In January last I was requested to see a lady in consultation with her physician, Dr. CRAIG, of Arcadia, Illinois. The lady had been confined to her bed three weeks with a low grade of fever, and much pain in the back and pelvic regions, constipated bowels, and incontinence of urine.

Disease of the bladder or uterus, or both, was suspected, but the exact condition not known. The suffering was much the same as is common in pelvic cellulitis, except that the difficulty of retaining urine was greater.

A sound was passed into the bladder, to determine the presence of calculi, with negative result, except that the posterior wall of the bladder was thrust forward. Suspecting that the uterus was resting against the bladder by the deviation of that organ termed anteversion, digital examination was made in the vagina, which discovered the os uteri resting hard against the rectum, the fundus forward against the bladder, resisting attempts with the sound to rectify it. Also, an unusual tumefaction and pressure was perceived above the os uteri, at the cul-de-sac of the vagina.

Injections of warm water were used to clear the rectum, and digital examination in the rectum and vagina were made at the same time (the index finger of each hand being used) ; fluctuation was perceived between the vagina and rectum high up. A bivalve speculum was next introduced into the rectum (after the patient was chloroformed), and an exploring needle passed in the direction of the fluctuation through the walls of the bowel. On the withdrawal of the instrument, pus was observed in the groove. A trocar was now pushed in the track of the exploring needle, the speculum was withdrawn, as well as the trocar, when pus escaped through the cannula to the amount of a pint. Thus was the abscess discovered and tapped, to the great relief of the patient, who ultimately recovered perfect health.

This abscess was situated between the rectum and uterus, pressing the rectum, causing pain in that organ and constipation; also pressing forward against the uterus, carrying that organ against the bladder, preventing the accumulation of urine, and creating a constant desire to pass it as it entered the bladder.

Of course, simultaneously with the evacuation of the contents of the tumor, relief came to all these parts.

I suspect these abscesses are more frequent than is apprehended, only a more searching and critical physical examination is needed to demonstrate the fact; and the failure to discover at an early moment and properly treat these occurrences of pelvic cellulitis, is a fruitful source of permanently impaired health. Particularly is this the case with those practitioners who are in the habit of referring disease to derangements of the "vital principle" as the primary cause of all ailments. Constitutional remedies are always in requisition by them, to the constant neglect of local disease and local treatment, until months and even years pass without the true nature of the disease being discovered, or anything done to remove it. In some instances we have met with, a simple digital examination per vaginam would have disclosed the true character of the disease and saved the sufferer years of pain and infirmity. In one case we found the remains of an abscess, of fibroid consistence, two inches in diameter and from one-half to three-fourths of an inch in thickness, occupying the space between the uterus and rectum, and descending between the walls of the vagina and rectum. This case had been of over three years' standing; from the history given by the patient, it probably originated in extravasation of blood from rupture of vessels connected with one of the broad ligaments of the uterus, and was treated all this time by a quasi homœopath for "rheumatic or neuralgic derangement." The proper examination at an early day would doubtless have discovered an abscess in the cellular substance between the folds of peritoneum, as in the case above described,

persistently displacing the uterus anteriorly, to the great discomfort of the bladder and the descending bowel by pressure of the tumor in that direction likewise.

While we cannot approve the examination, either digital or by speculum, of females for slight ailments, when the disease is serious enough to require a prescription every few days for months we believe it criminal neglect to continue guessing and groping in the dark, when a careful physical examination might at once afford the demonstration of what is necessary for permanent relief.

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*ON THE DIFFERENTIAL DIAGNOSIS OF DISEASES OF  
THE ABDOMINAL VISCERA.*

Read before the St. Louis Medical Society, June 26th, by G. HURT, M.D.,  
St. Louis.

Our success in the diagnosis of diseases of the internal organs will depend much upon the accuracy of our knowledge of their anatomical and functional relations.

We detect disease by the existence of certain phenomena called symptoms, which consist for the most part of perverted, exaggerated, suspended, or otherwise deranged functional action. But the same symptoms are common to several varieties and grades of disease, and in fact to those of an opposite pathological character, constituting a frequent source of error in diagnosis. Pain, for example, which is a pathognomonic symptom of neuralgia, is likewise a prominent symptom of inflammation, and is often present in many other forms of disease.

It is not so much, then, to the simple presence of a particular symptom as it is to the different grades and modifications which it may present, that we are to look for success in the diagnosis of diseases of the internal viscera.

But in studying the character and import of symptoms, the character and susceptibility of the textures involved must likewise be considered. For, as a rule, the symptoms will depend upon the nature and extent of the lesion,

together with the quality and susceptibility of the textures involved; and hence, if the lesion be inflammatory and recent, and involve the muscular and parenchymatous textures, the inflammation will probably be of the acute sthenic grade, and the pain will be more or less continuous and throbbing, with occasional exacerbations which are described as lancinating. But if the mucous and cellular tissues are alone involved, the pain is usually obtuse or dull. But pain in the abdomen may be also a symptom of mechanical distention from repletion, or of muscular contraction, excited by the presence of morbid secretions or unhealthy or too long retained ingesta, and in distinguishing between pain as a symptom of these different kinds of lesion, it is important to bear in mind the fact that in inflammation the pain is continuous, and attended with more or less soreness and tenderness on pressure over the parts affected, whereas in the absence of inflammation the pain, though ever so violent at times, is disposed to remit or intermit occasionally, and is usually relieved by pressure. In inflammation there is also more or less fever, with acceleration of pulse, while in the neuralgias the temperature and pulse are usually normal.

But it happens frequently that inflammations supervene in the course of other diseases, a complication which it is of the utmost importance to be understood before any plan of treatment is adopted. Under such circumstances it may be necessary to note farther—

1st. The position of the patient, and whether he lies quiet, as if afraid to move, or is tossing from side to side.

2d. Whether the abdomen is full or empty, hard or elastic, smooth and flaccid or irregular and full of lumps.

3d. Whether the tongue is moist and clean, or dry and furred; whether pale and flaccid, or red and contracted.

4th. Whether the urine is copious, scanty, or entirely suppressed.

A well directed inquiry into these several points will be of great service in determining the nature of the lesion.



It will also enable us to determine whether the inflammation (if present) be of the sthenic or asthenic grade, and whether acute or chronic, rheumatic, gouty, or erysipelatous, as also what particular organ or organs, and what textures of the same are involved, and to what extent.

The most frequent seat of inflammatory lesion of the abdominal viscera is, beyond doubt, the mucous membrane of the alimentary canal, constituting muco-enteritis, which may be limited to one or more of its anatomical subdivisions, or embrace the entire length of the tube.

Simple muco-enteritis is most frequently sub-acute and limited. The pulse and temperature are but little disturbed, and pressure elicits but a slight degree of pain and tenderness. But when the muscular coat is involved, there will be a considerable aggravation of the symptoms. There is fever with accelerated pulse, urine scanty and highly colored, with increased tenderness on pressure over the abdomen. The bowels are either constipated, or efforts to evacuate them are frequent, ineffectual, and painful—tenesmus.

When the peritoneum is implicated, there is still a further aggravation of the symptoms. In the acute sthenic grade the pulse is quick, sharp, and contracted, and the soreness of the abdomen is so excessive as to amount in some instances to intolerance of pressure. The urine is scanty or quite suppressed, owing to an extension of the inflammation to the peritoneal lining of the kidneys, in which case nausea and vomiting will be added—owing to uræmic intoxication—which it will be difficult to distinguish from that arising from simple inflammation of the stomach or duodenum, or from obstructions in the upper portion of the small intestines, either of which may occasion a more or less complete suppression of urine.

In simple enteritis and muco-enteritis, Dr. HABERSHON (*Diseases of the Alimentary Canal*, page 141, American reprint) says: "The diagnosis is very important, because means tending to aggravate the disease may be employed,

valuable time lost, or such aid passed by as might have been of essential service," and the same remarks are applicable to many forms of intestinal obstructions, to gastritis, and ischuria renalis.

The causes which lead to a suppression of the urinary secretion in affections of the abdominal viscera are numerous, and as it is a symptom of grave import, they demand farther notice. They are: *First*, those which obstruct the admission of fluids into the circulation, and *second*, those that obstruct their exit from the system through the urinary organs.

Dr. BARLOW, of Guy's Hospital, remarks (*Med. Times and Gazette*, July and August, 1866,) that "the entrance of water into the circulation may be opposed, as it were, *in limine* by obstructions high up in the alimentary canal; again, its passage may be interrupted in the portal system, as by disease of the liver, or even further on in the heart and lungs; all which obstructions may be so great as to prevent there being such a supply of redundant water in the blood as is requisite for the solution of the excretory matters, and from this cause may arise iniquation of the blood by these substances." "When the ingestion of fluid is obstructed at the commencement of the small intestines, we should apprehend *a priori* general diminution of the volume of the circulation, with changes in the physical characters of the blood, arising from the deficiency of water in proportion to the other ingredients, and, as the effect of this, derangement of the circulation, gradual failure of the motor powers of the heart from the withdrawal of its natural stimulus, consequent congestion of the lungs, lividity, suppressed secretions, and urgent thirst."

"When the obstruction is further on in the course of the circulation, as in the liver, whether from primary disease of that organ, or arising from obstruction in the chest, we should anticipate effects upon the circulation quite similar to those in the former instance, though of a less intense character, since we cannot conceive of any form of obstruc-

tion taking place in the portal or pulmonic circulation, such as would intercept the current of the fluid so effectually as occurs in some forms of obstruction in the small intestines."

We quote this eminent authority to show how effectually the urinary secretion may be arrested without the intervention of disease of the kidneys, and especially by some forms of intestinal obstruction.

The symptoms of obstructed bowel are: *First*, those depending upon the anatomical seat of the obstruction; *second*, the nature of the lesion; and *third*, the stage at which it is seen.

The first intimation of disturbed health may be a free evacuation of the bowels, followed by constipation, with pain and soreness, which is generally referred to some particular spot. Or, there is a sudden catch as if the parts were embraced by a stitch; or a sense of twisting, followed by intense pain, or a feeling of faintness. Or violent pain may be ushered in suddenly and without any premonitory symptoms, and followed soon by nausea and vomiting.

He may at first be restless, but the extreme soreness soon compels him to refrain from motion as much as possible. His features become sharp and shriveled, eyes sunken, lips and nails blue, extremities cold, and often covered with a clammy sweat. The urine is now quite suppressed, and symptoms of uræmic poisoning supervene, with delirium, coma, and death.

Now these symptoms, though all of them of the gravest import, are of no particular service, either in the aggregate or singly, in distinguishing intestinal obstructions from gastritis, or even simple gastric irritation; for the attendant vomiting in either case may be so incessant as to prevent the ingestion of liquids, the serum of the blood is soon drained off, leaving a redundancy of effete matters in the system, with uræmic intoxication, nervous exhaustion, cramps, delirium, etc. And the same may and do frequently occur in peritonitis, arising from perforation; and

they occasionally supervene on the gastric irritability of pregnancy.

But when the obstruction is situated low down in the course of the small intestines, or in the colon, the attendant train of symptoms will differ somewhat from those just described. There is seldom or never complete suppression of urine, and the abdomen is more or less distended with fecal and gaseous matters, which are often ejected by vomiting, and impart to the patient and the air of his apartment a strong fecal odor. But, owing to attendant inflammation or other complications, it is sometimes as difficult to determine the exact anatomical seat of the obstruction as it is in the first place to determine that obstruction does actually exist. Or, having determined both these points, we may still find difficulty in referring it to the cause which produced it. It may be the result of inflammatory or spasmodic stricture, or the cicatrization of an ulcer, or of intussusception, or twisting of the bowel upon itself, or hernia, or the lodgement and impaction of a foreign body, or paralysis, the result of lead or other poisoning. It is often of the utmost importance to determine to which of these causes the obstruction is referable, in order that treatment may at least be productive of no harm.

Stricture may occur in either of the anatomical subdivisions of the canal, but perhaps the duodenum and rectum are the most liable to it. It is usually the result of inflammatory infiltration and thickening either of a benign or malignant character, or it may result from the cicatrization of an ulcer, and in either case the obstruction may be partial or complete; may come on slowly and insidiously, or suddenly, and run to a fatal termination in a very short time; and if situated in the duodenum or high up in the jejunum, the nature of the obstruction will probably remain a secret during the life of the patient.

The symptoms of ulceration are so obscure that the disease may often exist without being suspected. "Pain,"

says Dr. HABERSHON, "several hours after food, sallow complexion, furred tongue, feebleness of circulation, mental depression, nausea, irritable bowels, have been ascribed in some cases to ulceration of the duodenum, but the facts do not warrant such precise description. In the several cases we have seen there were no such indications."

The duodenum is also liable to mechanical obstruction, though very rarely. Dr. HABERSHON has, in the course of several years, observed or found recorded isolated cases of the kind arising from several causes which he enumerates, the symptoms of which must be very nearly the same in each case, and it would be quite impossible during life to determine to which of the causes the obstruction is due.

The most reliable diagnostic symptoms of obstruction in the early course of the intestine, are, the locality and persistent character of the pain, the emptiness of the bowels, the early stage at which vomiting sets in, together with the bilious character of the matters ejected, and the more or less complete suppression of the urinary secretion. But the simple passage of a gall-stone may give rise to nearly the same group of symptoms, and if persistent, may be mistaken for occlusion of the bowels.

When obstruction occurs in the lower portion of the small intestine, or in the colon, the abdomen usually becomes distended with fecal matters, which are often ejected by the vomiting. The pain most usually occurs in paroxysms, and the peristaltic movements can be easily felt, and in thin persons may be seen through the walls of the abdomen. But with the closest observation, we are at all times liable to be misled. Dr. HABERSHON mentions a case in which all the symptoms of strangulation were present, and on detecting a femoral hernia, it was supposed to be the cause of the trouble. The hernia was reduced, but the symptoms of strangulation continued and the patient died, and on examination it was found that the lower portion of the duodenum was impacted between two enlarged glands.

It must be evident from the preceding remarks that in most of the pathological conditions to which we have referred, the differential diagnosis is exceedingly difficult, as any or all of the forms of mechanical obstruction are liable to be confounded with each other, as also with enteritis or inflammatory stricture. At the same time, the diagnosis is just as important, with a view to their correct treatment, as it is difficult.

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## Reviews and Bibliographical Notices.

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*THE MECHANISM OF DISLOCATION AND FRACTURE OF THE HIP. With Reduction of the Dislocations by the Flexion Method.* By HENRY J. BIGELOW, M.D., Professor of Surgery, etc., etc. With Illustrations. Philadelphia: Henry C. Lea, 1869. 8vo., pp. 150.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

We arise from the perusal of this monograph with the conviction that our author has, in its pages, made a valuable contribution to surgery. The matter is fresh, and the manner is good. Much thought, study, observation, and experimentation have been devoted to the subject, and the thanks of the profession will not be withheld from the writer for his labor, nor from the publisher for the elegant style in which the little work is issued.

The author strikes the key-note of dislocation of the hip when he refers its peculiarities of position and of reduction to the duplicature of the capsular ligament, known as the ilio-femoral, or ligament of BERTIN, which, from its triangular shape and divergent branches, our author christens the Y ligament, a solecism uncalled for, and surely not elegant, though terse. The condition of this ligament, whether ruptured or not—usually from its great strength it remains untorn—and the relation of the femoral head to the ligament, *i. e.* above, below, or otherwise, determine the position of the limb; and a knowledge of these facts points at once to the rational mode of reduction.

Our author is not the first to have called the attention of the profession to the fact that the capsular ligament—and not the muscles, as advocated by REID and others—is the structure *par excellence* involved and to be considered in femoral luxations. But we believe he is prior in giving such prominence to the particular portion of the ligament which he has dubbed the “Y,” and is therefore entitled to much credit.

Reduction by manipulation, which is now so general in this country, is not only advocated by the author, but insisted upon

for the cogent reasons given. The method by pulleys is now seen to be irrational, and is known to greatly lacerate the structures. The day is not far hence when it will be a procedure of the past.

The author says: "The basis of this manipulation is flexion of the thigh," and "is efficient because it relaxes the Y ligament, or because that ligament, when it remains tense, is a fixed point around which the head of the femur revolves near the socket." "During the process of reduction this ligament should be kept constantly in mind." "Except in the supra-spinous dislocations, the two insertions of the Y ligament are more closely approximated when the thigh is flexed upon the trunk, carried towards the navel, and rotated inwards." . . . "In certain cases the ligament may be needlessly relaxed by extreme flexion, and may advantageously be drawn tighter by a little extension or outward rotation."

When the head has escaped through a small aperture in the capsular ligament, button-holed, so to speak, it may be impossible to replace it without enlarging the slit. This our author tells us is easily accomplished by "carrying the head of the bone towards the opposite side of the socket," . . . "circumducting the flexed thigh across the abdomen in a direction opposite to that in which it is desired to lead the head of the bone, which should be made in this way to pass across below the socket, and never, it is needless to say, above it, across the Y ligament."

The different varieties of this dislocation are fully described; the symptoms, the relation of the parts, and the method of reduction by manipulation are fully dwelt upon, being illustrated by occasional cases from practice, and accompanied, to a fuller understanding of the subject, by well executed wood cuts.

Of old dislocations he says: "So long as the socket was still excavated and the bones were not deformed by osseous growths, I should feel quite confident of breaking any adhesions, lacerating the newly formed capsule, and replacing the bone by the great power of the femoral shaft as a lever, and of the flexed leg in rotating the head of the bone around the main ligament."

We have also given us the description of an apparatus for making angular extension, which both confines the pelvis and enables the operator to apply extension to a limb which has been flexed to relax the Y ligament. Doubtless it would prove efficient in cases of long standing or complicated with fracture.



The subject of fractures of the neck of the femur is not treated either so fully or so masterly as that of dislocations. However, there are furnished us valuable observations and suggestive thoughts on impactions, which the writer thinks are comparatively frequent, and capable of union, after a few months, without deformity. They are characterized by shortening and eversion very inconsiderable, by disability, by pain and tenderness, by absence of crepitus, and are apt to occur in the middle-aged and healthy. The object of extension in its treatment is to steady the limb, not to draw it down.

We are told that in making a section of the neck of the femur at its lower surface, the anterior wall will be found of great thickness, the posterior quite thin, in one place like paper. "The result of this conformation is obvious. In impacted fracture the thin posterior wall is alone impacted; while the thick anterior wall, refusing to be driven in, yields only as a hinge, upon which the shaft rotates to allow the posterior impaction."

The author ignores the old classification of fractures within and without the capsule, and adopts the more practical one of impacted and unimpacted. He claims that union by bone may occur in impaction, even though the fracture is within the capsule.

A few pages on fracture of the acetabulum complicated with dislocation, fracture in which the head of the femur is driven through the acetabulum, and fracture of other parts of the pelvis, close the work.

A well arranged table of contents precedes the text, and a full alphabetical index follows, adding much to the practical value of the book. The wood cuts are numerous and well executed. The type is large and clear, the paper tinted and heavy; the binding cloth, with bevelled edges, very neat, being the first, we believe, of this style issued by H. C. LEA. The book would grace any library, and should certainly be had by all interested in the department of surgery here treated.

A. J. S.

*DAS CHLORALHYDRAT: ein neues Hypnoticum und Anæstheticum.*  
Von Dr. OSCAR LIEBREICH.

[*Hydrate of Chloral: a new Hypnotic and Anæsthetic, and its use in Medicine.*] By Dr. OSCAR LIEBREICH, Chemical Assistant to the Pathological Institute, and Instructor in Materia Medica and Medical Chemistry at the University of Berlin. Second edition, unaltered. Berlin: Otto Müller, 1869. 8vo., pp. 60.

There are those who deny that the healing art is making progress. There is a still larger class, including many in the profession itself—even old and experienced men—who are disposed to deny the influence of the advancing science of medicine for the progress of its practice. To all such we would earnestly, urgently, recommend the study of the small brochure whose title we have given above, as but one example, though a striking and unambiguous one. It embodies a lesson not to be misunderstood. It tells of the discovery of a new remedy, an account of which has already been communicated to us and to the readers of this *Journal* (this Vol., p. 373, July number) by Mr. GEORGE J. ENGELMANN; of a new remedy not hit upon by accident, but chosen through close *a priori* reasoning upon its chemical constitution and properties, from which its physiological action upon the animal organism was inferred. A remedy, the claim of which does not consist solely in its having been “found useful” in this affection or that, but of which the physiological action and therapeutic effects are revealed to us at once by a single series of investigations, complete in conception and execution, leaving nothing to be desired but the experience of the profession in handling it in their practice at the bed-side.

Dr. LIEBREICH's memoir would be an achievement of great merit even if it contained nothing more important than this grand and hopeful lesson it inculcates: that the “abstract” (or abstruse, the “practical” men are fain to think them) sciences are the sources of the only *real* progress of therapeutics that is possible—that, as our author believes, “the investigation of remedies . . . should begin in the retort, and in the more complicated processes at the bed-side only find clinical confirmation.” But it adds to our means for the relief of suffering an agent that will, rank with opium and ether or chloroform as a hypnotic and anæsthetic, and fulfil the indication where both of these remedies fail.

The introduction sets forth how, though clinical experience may demonstrate certain facts as to the effects of remedies, we have no clue as to the *nature* of their action. In investigations which strive to explain the remedial influence of drugs by aid of chemical or physical processes, it is necessary that we should first have an accurate knowledge of the chemical and physical processes on the one hand, and of the substances introduced on the other. Positive knowledge of the nature of the action can be had only after these preliminary questions are settled. Hence "every chemical investigation of the constituents of the body and the exact study of their chemical constitution will be a better means to advancement than to undertake the solution of great problems, setting aside the analytical and theoretical chemical experiments—difficult, indeed, and little esteemed by reason of their not immediately apparent [practical] result."

When any substance is introduced into the organism, the question is whether the organism is capable of decomposing it, or whether the substance passes through it unaltered. There is (1), a series of substances, which by uniting with a second body form new compounds and thus leave the organism (e. g. benzoic acid, changed into hippuric acid); (2), substances which pass through the body unaltered (e. g. ferro-cyanides); (3), substances which are decomposed. At present we are able to demonstrate only the final products of these decompositions, whereas any one of the intermediate products may be the really efficient one. No investigation, the author thinks, would be more likely to promote our understanding of the nature of a remedial effect, than the following up of the chemical behavior of substances introduced into the body. For the purpose of examining the fundamental question, whether a substance is decomposed within the organism into intermediate products before it is completely oxidized, the author chose bodies the primary products of which not only were well known, but also the effects of the latter upon the organism, viz: chloral, and trichloroacetic acid. These yield, upon decomposition in an alkaline fluid, chiefly chloroform. Now if these bodies do not pass through the system unaltered, they must either be oxidized directly into hydrochloric and carbonic acids and water, or else their intermediate product chloroform must be brought into action. The hydrate of chloral being a substance easily absorbed into the blood, and the latter being an alkaline

fluid, the generation of chloroform was the result most likely to occur.

The experiments instituted on animals (frogs and rabbits) confirmed this expectation, and at once revealed the striking and unvarying properties of chloral as a hypnotic and anæsthetic. Without a previous stage of excitement, such as is accustomed to initiate the anæsthesia of chloroform inhaled, the animals fall into a deep sleep, sensation and reflex action being suspended for hours, whereupon they awake without showing any symptoms of discomfort or injurious effects. These experiments proved chloral to be so precise and reliable in its action, that its employment in man seemed justified. In animals, the hypodermic injection of the drug caused no local irritation whatever; a few preliminary experiments with small doses proved the same in man.

The remedy was now tried in patients, especially those suffering from mental diseases, in cases of insomnia, pain, etc. From the first three cases it appeared, that an average hypodermic dose of 1.5 grm. (23 grains) produced narcosis more or less rapidly, of pretty uniform intensity and duration; pulse and respiration behaved as in physiological sleep. These doses being too bulky for convenient hypodermic injection, the remedy was now administered by the stomach, commencing with the same dose. It was then discovered that, for producing sleep, the dose *per os* need not necessarily be larger than the subcutaneous dose above stated. The effect was apparent in five minutes, and differed in no respect from the influence exerted by overpowering drowsiness. There was no stage of excitement; no nausea, no subsequent gastric derangement. By using a larger dose, 2 grammes (31 grains) and upward, anæsthesia is effected. In a child, 6 years old, three doses of 0.45 grm. (7 grains) each in 20 minutes, produced 16 hours' sleep. Sleep was produced by chloral in cases where morphine and chloroform had utterly failed. In a case of mania a potu, 4.5 grm. (70 grains) given internally, and 1 grm. (15 grains) injected under the skin, very soon put the patient to sleep from 3.50 P. M. till next morning, when she awoke perfectly conscious. The promptness of action in this case was of the greatest importance, and rendered the result particularly conspicuous and brilliant.

But we must close our already extended notice of this interest-

ing memoir, which at the same time opens a new method of research in a science so important to the practical physician, and acquaints us with a new remedy which is *certain to effect sleep, and yet perfectly safe*.\*

G. B.

*A TREATISE ON DISEASES OF THE EYE.* By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London. With sixteen chromo-lithographic illustrations, copied by permission from LIEBREICH's *Atlas d'Ophthalmoscopie*. Philadelphia: Lindsay & Blakiston, 1869, 8vo., pp. xiv, 741. Printed by Harrison & Sons, London.

*The Same*—First American Edition, with Additions. Philadelphia: Henry C. Lea, 1869, 8vo., pp. 736. Price, cloth \$5.00, leather \$6.60.

[For sale by the St. Louis Book and News Co., 207 North Fourth Street.]

We know of no one better qualified to write a good English text-book on modern ophthalmology than Professor SOELBERG WELLS. For many years a resident student in the best schools of the continent of Europe, he has been for ten years associated with the leading ophthalmic surgeons of London in the Royal London Ophthalmic Hospital, Moorfields, and for several years past has also held the important position of Professor of Ophthalmology in King's College. Enjoying the personal intimacy of the best workers of Europe, with opportunities for observation unequalled anywhere upon the continent, and with considerable experience as a teacher, Mr. WELLS brings to his task a thorough and well digested knowledge of the great discoveries of the past fifteen years which have revolutionized ophthalmology, and have established it for the first time upon a truly scientific basis.

Time enough has now elapsed since the dazzling discoveries of HELMHOLTZ, CRAMER, DONDEERS, and GRAEFE broke in rapid succession upon the scientific world to try them calmly by the final test of critical experience, and to rewrite the science which they have so brilliantly illustrated. This Mr. WELLS has done most judiciously, keeping constantly in mind the requirements of the great mass of professional readers to whom even the phraseology of the new science is an unknown tongue. He has accordingly given to the profession a most useful book, covering in a manner the whole ground of ophthalmology as viewed from the

\* We give particulars as to the chemical properties and modes of administration in our extract columns.—[Ed.]

standpoint of modern science. It is eminently a book for students and for general practitioners. Without pretending to the wonderful encyclopædic completeness of the veteran MACKENZIE, or the extreme condensation of style which characterizes the admirable recent treatise of STELLWAG, it is nevertheless a far more readable book than either, and is at once complete enough to serve as a trustworthy guide in practice, and plain enough to be understood by any medical student of ordinary intelligence. It is the best general treatise of its kind that we have yet seen, and it fills a void which has been felt for a long time by those in need of a good modern text-book on ophthalmology. We commend it, therefore, most heartily to all our readers, both practitioners and students.

The general execution of the work in the original edition is excellent, with the exception of the chromo-lithographic plates, after LIEBREICH, which, although printed in Berlin, are of rather coarse and sometimes even careless execution. In the American reprint, the print, paper, and wood cuts are decidedly inferior to the original, while the chromo-lithographs, being copies from copies, are on the whole coarser, and in some respects even incorrect. It remains only to notice the additions made by the American editor and publisher, for which credit is claimed in the preface. These consist in about a hundred wood cuts, scattered through the text, selections from SNELLEN's Test-letters, a set of test-types said to correspond with those of JAEGER, and a few notes by Dr. I. MINIS HAYS. Of the notes it may be said that they are few and brief, and generally unimportant; two of them, upon division of cataract and lachrymal obstructions, are, however, interesting as noticing plans of treatment approved by Dr. ISAAC HAYS. The test-letters after SNELLEN are useful and well selected, but those purporting to be JAEGER's are grossly inaccurate, as we had occasion to point out nearly two years ago when they appeared in connection with another reprint by the same publisher. The hundred interpolated wood cuts are from the accumulated stock of Mr. LEA, many of them being very old acquaintances; for the most part they add very little to the value of the book, while some of them do harm by giving undue importance to the subjects they happen to fit; others are so poor as to detract materially from the appearance of the page, and not a few, designed to illustrate morbid conditions of the eye, are either

worthless to show what is intended or are ridiculous as caricatures.

On the whole, we must recommend the edition offered by Messrs. LINDSAY & BLAKISTON as decidedly preferable to the reprint.

J. G.

*A TEXT BOOK OF PRACTICAL MEDICINE, with particular reference to Physiology and Pathological Anatomy.* By Dr. FELIX von NIEMEYER, Prof. of Pathology and Therapeutics, Director of the Medical Clinic of the University of Tübingen. Translated from the 7th German edition by GEORGE H. HUMPHREYS, M.D., etc., and CHARLES E. HACKLEY, M.D., etc. In 2 volumes. New York: D. Appleton & Co.. 1869. 8vo., pp. xv, 731; viij, 770. Price \$9.00.

[For sale by the St. Louis Book and News Co.]

German medical authors, in making their way into American literature, seem to be following the emigrants' route, which of late is becoming direct, instead of by way of the British Isles as formerly. Within *one* week we have received no less than three *American* translations of German medical works; and—what is more suggestive—*all* the translations of German books which have come into our hands in the last year and a half were done in this country. (During the same time, none but HEBRA, by the New Sydenham Society, were published in Great Britain, although the English have hitherto been diligent translators of continental medical literature.) They are numerous; \* they have all been well received by the press. The explanation of this phenomenon is probably to be found mainly in the increased and increasing number of Americans visiting the medical schools of Germany. But the countenance that is given to these works, and the good-will with which they are accepted by the profession, seem to indicate also that the exact method of German medicine is not now held to be so abstruse or so far removed from practical ends, after all, as it has been represented to be. It remains to be seen, if such a work as NIEMEYER'S—the acknowledged best text-book on practical medicine in Germany—can be successfully introduced as a student's text-book in the American schools. It "has passed through seven German editions, the last two of triple size," in ten years.

\* STELLWAG, TUBOLD, SIGLE, ANLT (2 short articles), NIEMEYER (2), TROELTSCH, KLOB, VIRCHOW (Trichina), POLITZER, MOR. MEYER.

In the meantime, we are grateful to the translators of the two volumes before us, Drs. HUMPHREY and HACKLEY, of New York, and to the enterprising publishers, Messrs. D. APPLETON & Co., for the issue of this work. The translation has been made by special permission of the author, and is a decided success; it is correct, fluent, very readable, and contains fewer Germanisms than might reasonably be accounted for—the German being the most difficult to translate well, in our opinion, of all the civilized languages of the present day. We regret the more to find in these pages a profusion of barbarisms of another kind, namely misspellings, incorrect abbreviations, and other inaccuracies of Latin, and incongruous mixtures of Latin and the vernacular such as the *author* is certainly incapable of.\* The errors in German quotations† and proper names,‡ on the other hand, are commendably few.

The name of Prof. NIEMEYER has been brought before the American medical reader on several occasions, more particularly by Dr. PARKE in his translation of NIEMEYER'S views on consumption. His opinions, on many important subjects, may therefore be presumed to be known to most of our readers.

To review in detail a work, like the present, of 1500 pages, and embracing the entire field of practice, is obviously an undertaking for which our Journal affords too little room. We must confine ourselves to a brief synopsis.

Unlike the corresponding English and American treatises, the one we speak of omits general pathology altogether; the German title indeed announces it as treating of "*special* pathology and therapeutics." The author, on the very first page, proceeds *in medias res*, commencing with the etiology of "Hyperæmia and Catarrh of the Mucous Membrane of the Larynx." After fol-

\* "The medicines most frequently used . . . are arg. nitrat. [*Latin genitive*] (gr. j—lj to sacc. [*for sacch.*] alb. dr. j—ij), calomel [*English nominative*] (gr. x—xx to sacc. [*again*] dr. j—ij), alumen. [*Latin nominative, with a superfluous mark of abbreviation*] (dr. ss—j to sacc. [*again*] alb. dr. ij)." Vol. I, p. 12.—Similar inaccuracies on p. 30. The abbreviation "u." for "ut" in the prescription on page 244 is unheard of. On page 244 we read of "tincture of valerian and castor æthera"! These are but a few of the examples we happened to meet.

† E. g., Vol. I, p. 18, line 16.

‡ *Schintzler* for "Schnitzler," *Kiewisch* for "Kiwisch," *Sitgle* for "Siegle." The latter error reminds us of the tendency often met with of late to over-correct the formerly usual omission of the dotted ä, ß, u, (= æ, œ, ue) of the German alphabet; while formerly we were wont to see Türk spelt Turk, and Förster Forster, we now read of Wunderlich for Wunderlich, and like mistakes.



lowing up the affections of the respiratory organs from the larynx down to the lungs and pleura, with two chapters on the affections of the nasal cavities appended, he treats, in the order as follows, of the diseases of the circulatory organs, digestive tract, liver and bile-ducts, and spleen, with an appendix to the latter on leuchæmia and melanæmia. The second volume contains the diseases of the urinary organs (including bladder and urethra [gonorrhœa]), of the male and female sexual organs, the nervous system, skin, and organs of locomotion (rheumatism, gout, rickets, etc.). Finally the constitutional diseases.

The acute exanthemata are very properly classed among the constitutional diseases, and not among the cutaneous affections. We do not, however, find NIEMEYER inclined to transfer from the local classes of disease to the constitutional category as largely as some other modern writers, e. g. AITKEN, do. The latter author makes whooping-cough, mumps, croup (distinct from diphtheria), and goitre, constitutional diseases, whereas N. treats of them among the diseases of the respective organs.

One feature still of NIEMEYER's book deserves particular mention as an advantage, not to be over-rated, over other similar treatises in our language, viz: the prominence given to the consideration of the pathological anatomy of the respective diseases. BENNETT's *Clinical Lectures* is the only work approaching it in completeness in this respect. In AITKEN's large work, the sections on the pathology and anatomical lesions of the particular diseases treated of are far less systematic, less indicative of the importance of the subject, and, above all, they lack that constancy and uniformity of treatment which we find so commendable in the treatise before us.

In closing this notice, we cannot forbear once more to express our gratification at the manner in which both the translators and publishers have performed their part in making this valuable work accessible to the profession and students of our country, and that, too, at a price which compares very favorably with that of the German edition.

G. B.

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*THE PATHOLOGY AND TREATMENT OF STRICTURE OF THE URETHRA, AND URINARY FISTULÆ.* By SIR HENRY THOMPSON, F.R.C.S., Surgeon-Extraordinary to H.M. the King of the Belgians, Prof. of Clin. Surgery, and Surgeon to University College Hospital. Philadelphia: Henry C. Lea, 1869. 8vo. pp. 359.

[For sale by the St. Louis Book and News Co.]

In the preface, SIR HENRY THOMPSON remarks that "he has reduced the bulk of the work by upwards of eighty pages, first by removing matter which in the former edition related to controversial points under discussion at the time of publication, but since for the most part settled," etc. Secondly, he has removed entirely all the "illustrative cases," remarking that "after another ten years' experience it is better and simpler to give its results in the form of opinions as simply and briefly expressed as possible, unincumbered by those guarantees which might naturally be expected from an author in the early part of his career." Perhaps there is no surgeon now writing in the English language, who would be more freely accorded this privilege than SIR HENRY THOMPSON; his opinions are now standard, and authority upon the subject.

In reading this book the practical surgeon will find much surplus and useless matter, but it must be remembered that the first edition was the Jacksonian Prize Essay for that year, and that the manuscript could not be changed; in the succeeding editions much of this form has been retained. For instance, in addition to the latest and best practice in the various conditions of Stricture of the Urethra, he has given the *history* of the many operations and instruments used by our predecessors—all of which is very interesting, but is an objection to the book for the purposes of the busy surgeon.

The first chapter is a clear and lucid description of the anatomy of the urethra especially, with a brief notice of the other parts of the perineum concerned in stricture. He has avoided the cumbersome and annoying details too often met with, and confined himself to the practical matters of the anatomy of the perineum, for which we are especially thankful.

The second chapter discusses the "Classification and Pathology of Strictures of the Urethra." His general division is into two classes, "Permanent and Transitory Contractions." While he does not deny the existence of "spasmodic strictures," he discards them as a separate class—the same with reference to

"inflammatory strictures." Hence the book is confined to the consideration of "permanent stricture." He remarks in this chapter that in the preparation of his work, he has availed himself of the three hundred preparations of stricture of the urethra preserved in the museum of the Royal College of Surgeons, and the other museums of England, Scotland, and Ireland; also those of Paris. He then considers the various forms of permanent stricture, "linear," "bridle," "annular" and "tortuous" strictures. Then follows an outline of the pathology of stricture. In this chapter there is nothing new or striking; but the subject is so clearly and simply discussed as to meet the approbation of all. His statistics as to the locality of stricture are the best in our language, to my knowledge.

In chapter third he gives a vivid but concise description of the "Symptoms and Pathological Effects of Organic Stricture." Chapter four is upon the "Causes of Organic Stricture."

In chapter five he discusses in a short but practical manner, "Spasm and Inflammation as Causes of Urethral Obstruction."

At chapter six begins the practical part of the work, "The Diagnosis and Treatment of Stricture of the Urethra—Dilatation." Before entering upon the treatment of stricture he discusses, in a most frank and charming manner, the comparative virtues of metallic instruments and soft, elastic instruments. He gives most emphatic preference to the elastic instruments, especially the very soft and pliant olive-tipped French bougies and catheters. This is a great change of opinion upon the part of SIR HENRY THOMPSON; he confesses it in the most candid manner. We agree entirely with him on this point; every day's additional experience teaches us that the soft French bougie is the instrument par excellence for the diagnosis and dilatation of stricture. We know that the great majority of surgeons in this country practice and believe differently, but we ask them, not upon our own but SIR HENRY THOMPSON'S authority, to throw aside their early prejudices and give the elastic instruments a trial. A patient once treated with soft instruments will never consent to the use of metallic ones again. Especially are these bougies adapted to that part of the treatment which must be carried out by the patient alone; that is, the prevention of the return of the stricture by the occasional introduction of a bougie. We never permit a patient to use a metallic instrument for this purpose—it is unsafe to entrust them with an instrument improper use of

which results in abscess, fistula, etc. With the soft olive-tipped bougie this never happens.

After his eulogium upon the soft bougie, Mr. THOMPSON considers the various forms of dilatation—first, simple dilatation by the ordinary method of using sounds in general use; second, by “rupture,” giving here a plate showing Mr. HOLT’s instrument for this purpose—he speaks favorably of it. We have had little experience with this method.

Mr. THOMPSON here introduces his own instrument for rupture or rapid dilatation, and explains its use; the principles being there of Mr. HOLT’s instrument, except that the dilatation is made with a screw, and hence safer and under control. We have been using one of Mr. THOMPSON’s instruments for some time, but very unsatisfactorily, because with the curve as now made by TIEMANN, of New York, it cannot be introduced with any safety or certainty; the curve being insufficient and too long. We have had a different curve made to ours, and hope better results. We attach the blame not to Mr. THOMPSON’s instrument as used by him, but as made in this country. We must not omit reference to “continuous or permanent dilatation”—that is, when you once succeed in introducing a small instrument, tie it fast and let it remain for twenty-four or forty-eight hours—then you can introduce one several numbers larger, permitting it to remain in the same manner. Mr. THOMPSON speaks of this plan in the most flattering terms, as being rapid and safe. A short reference is made in this chapter to the endoscope as applicable to diagnosis and treatment of diseases of the urethra and bladder. He thinks too much has been claimed for the instrument; that in his own hands no practical good has been attained by its use. We agree fully with him as far as our experience goes.

The chapter is concluded by “Constitutional Treatment.” This subject is well treated, and the student will get from it a number of very valuable points, the results of SIR HENRY THOMPSON’s ripe and mature experience.

Chapter seven is upon “The Employment of Chemical Agents in the Treatment of Stricture;” he gives its history, rationale, etc., but discourages the idea, and indirectly ridicules some of its adherents, especially SIR EVERARD HOME, who after employing the caustic 1258 times upon one patient, succeeded in introducing an instrument into his bladder,

Chapter eight discusses "The Treatment of Stricture by Internal Incision." This is one of the most important points discussed in the book—first, because of the seriousness of the operation; secondly, because it is so little understood and practiced in this country. Mr. THOMPSON discusses it as one perfectly familiar with his subject—describes the urethrotomes for cutting from before backwards, also for cutting from behind forwards. It is in this direction, we think, that progressive surgery is tending. Mr. THOMPSON now cuts certain strictures with impunity and success; others will do so too when the mode becomes more familiar.

In chapter nine "Treatment of Strictures by External Incisions" is discussed. The history of the operation is given, with an especial description of the method adopted by Mr. SYME. The author is not partial to this method of relieving stricture, but admits its utility in those cases of retention of urine from stricture when other means of relief have failed. By it two birds are killed with one stone—the bladder is relieved and the stricture cured, yet at the serious risks known to attend the operation.

"Retention of Urine depending on Stricture" is discussed in chapter ten. It is in this chapter that the student and busy surgeon will find his greatest aid and comfort. The author's ripe experience here exhibits its best fruits—all the methods of relief are amply and practically discussed, and valuable suggestions given upon every point. His experience in the use of chloroform as a means of relief in this emergency is highly satisfactory, and coming from such high authority will encourage others in its more frequent use for this purpose. This chapter concludes the discussion of strictures proper. The author properly remarks that the wise surgeon will not permit himself to be confined to any one plan or method of treating stricture, but will choose from all; as in the variety of difficulties met with, he will need all the resources at his command.

Chapter eleven discusses "Urinary Abscess and Urinary Fistulæ." These complications and consequences of stricture are ably and concisely treated, and the method of performing the various operations proposed for relief fully described.

It is not in the scope of this review to enter into details upon any points discussed, and we will conclude by the statement that in our estimation SIR HENRY THOMPSON's work is the best in our language upon this subject.

I. G. W. S.

**THE MEMBRANA TYMPANI IN HEALTH AND DISEASE.**

Illustrated by twenty-four chromo-lithographs and twenty wood cuts. With Supplement. By Dr. ADAM POLITZER, Instructor in Aural Surgery in the University of Vienna. Translated by A. MATHEWSON, M.D., and H. G. NEWTON, M.D. New York: Wm. Wood & Co.. 1869. 8vo., pp. VIII, 183. Price \$2.50.

[For sale by Cowan & Krath, and by the St. Louis Book and News Co.]

A more valuable addition to the list of works on aural surgery in the English language could not have been made, and it is doubly welcome, coming as it does after Dr. ROOSA's admirable translation and edition of VON TRÖLTSCH, issued by the same publishing house, and noticed in our May number. Taken in connection with that work, we have now the latest and best authorities on the diagnosis and treatment of aural diseases, adapted alike to the wants of the general and special practitioner. The chromo-lithographs are printed in Vienna, from the original drawings on stone, and are consequently identical with those illustrating the German edition; the wood cuts have, however, been engraved anew, and are of rather inferior execution.

We are glad to witness the efforts which have been made by Messrs. WOOD & Co. in this work, as well as in their edition of STELLWAG on the Eye, to give their readers the original lithographic illustrations rather than careless and badly executed copies, but we see no reason why the good work might not include electrotypes of the wood cuts as well. J. G.

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**OPHTHALMIC SURGERY AND TREATMENT:** *With Advice on the Use and Abuse of Spectacles.* By JOHN PHILLIPS, Optician and Oculist. Chicago: Western News Co., W. B. Keen & Co.. 1869. 8vo., pp. 510.

Who "JOHN PHILLIPS" is we do not know, and we should certainly not have noticed his book had it not been already most ignorantly reviewed and most culpably indorsed by the *Chicago Medical Journal*. The chief objects of the publication would seem to be to advertise "JOHN PHILLIPS," and to puff one "Dr. J. B. WALKER," who is held up as a bright and shining light, and who, with "Dr. RALLS SMITH and Dr. UNDERWOOD," has "greatly assisted me in many important suggestions, during keeping the Infirmary twelve years in Chicago."

This book is one of the most outrageous pieces of imposture we have ever seen. It is made up of extracts copied *verbatim*

from HEWSON's edition of MACKENZIE, T. WHARTON JONES, DIXON, H. W. WILLIAMS, HACKLEY and ROOSA's translation of STELLWAG, BADER, LAWSON, LAURENCE and MOON, DAVID PRINCE, and a few other writers, old and new, patched together without apparent method, other than to fill a certain number of pages, and with occasional interpolations and perversions of the text for the glorification of "J. B. W." The selections have been made in absolute ignorance of many of the subjects treated, and abound in repetitions and inconsistencies. Good and fresh material has been everywhere overlooked, and obsolete and exploded vagaries, which once passed for facts, are copied. Besides these bare-faced and recognizable thefts from authors of some standing, there is a large amount of trash of unknown origin and too contemptible even to hold up to ridicule.

The plan and execution of this quack advertisement are alike despicable; as a work on ophthalmic science and art it is utterly worthless.

It is to be hoped, for the credit of the very respectable publishing house whose name heads this notice, that its managers will in future be more careful in lending the sanction of their imprint to works of unknown character. For their benefit we invite their attention to the first page of the preface, of which three paragraphs and two lines stolen *verbatim* from the preface to Mr. DIXON's *Guide to the Practical Study of Diseases of the Eye*, are patched out with four lines of pretentious nonsense too wretched to be other than original. This first page of the preface is a tolerably fair sample of the whole book. J. G.

*A COURSE OF PRACTICAL CHEMISTRY, arranged for the Use of Medical Students.* By WILLIAM ODLING, M.B., F.R.S., F.R.C.P., Lecturer on Chemistry at St. Bartholomew's Hospital. From the 4th and revised London edition. Philadelphia: Henry C. Lea, 1869. 12mo., pp. 261.

[For sale by the St. Louis Book and News Co.]

This very neat and convenient guide to laboratory practice should find easy access into our medical schools. It is a very brief treatise on analytical chemistry, and is specially arranged for the medical student, partly by the omission of all that concerns the rarer metals, etc., and of the applications to metallurgy and technological subjects which are unavoidable in similar

manuals designed for general use, partly by the introduction of separate chapters on toxicological and animal chemistry. The notation employed by Dr. ODLING is according to the new system; the nomenclature, however, is a not very consistent compromise between the old and the new.

The first, or introductory chapter, treats briefly in its first section, under the head of "chemical reactions," of the fundamental theories and definitions of chemistry, of notation and formulæ; the second section has reference to chemical manipulations. The second chapter is headed "analytical chemistry," and occupies 89 pages; it teaches blowpipe analysis, analysis by solution and precipitation, examination for bases in certain groups, examination for acids, finally, the reactions of individual bases and acids. This portion of the book is most admirably and conveniently arranged.

The "toxicological chemistry" (chapt. III) gives a course of instruction in which are detailed the properties and reactions of certain important poisons (12 in number). Chapter IV, on animal chemistry, occupies itself chiefly with the chemical properties of the constituents of urine—normal, abnormal, and urinary calculi. The remaining sections are devoted to blood, milk, and bone. We regret that, after all, too little space has been given in these chapters to the organic compounds, the knowledge of whose properties is so important to the physician and so difficult to obtain from the text-books now in use.

The typography is very good; the quality of the paper, especially, is better than we are accustomed to see in Mr. LEA's medical publications. Very fair wood cuts illustrate the text.

G. B.

*A GUIDE-BOOK OF FLORIDA AND THE SOUTH, for Tourists, Invalids, and Emigrants, with a Map of the St. John River.* By DANIEL G. BRINTON, A.M., M.D. Philadelphia, and Jacksonville, Florida. 1869. 16mo., pp. 136.

This compact itinerary is addressed, as far as medical matters are concerned, to the invalid only, but we do not know where the physician can more conveniently find the information relating to the climate of Florida, and its influence upon health, and also the practical points of hotel accommodations, means of transportation, and expenses generally, which must all be considered



in selecting a place of resort for an invalid requiring a change of residence. To the pleasure-traveller it gives that sort of information concerning routes, objects of interest, and the history, which is usually supplied to tourists in the European guide-books. Dr. BRINTON thinks that the generally received date of the discovery of Florida is incorrect, saying (p. 33) that PONCE DE LEON "first saw its shores on Easter Sunday, March 27, 1513—not 1512, as all the text books have it, as in that year Easter Sunday came on April 20th." If this be his only reason, while the discrepancies in the accounts of the discovery of Florida are so numerous, we should be unwilling to accept the change. Thus, Mr. FAIRBANKS, in his work entitled "The Spaniards in Florida," does not say that the discovery was made on Easter Sunday (*Pascua Florida*), but on Easter Monday. Other authorities say that the country was discovered on Palm Sunday, and we are informed in the article on Florida in MORERY'S Dictionary (1702) that the name was given by, not PONCE DE LEON, but DESOTO, who visited the peninsula May 25th, 1528.

In the chapters addressed to invalids, Dr. BRINTON maintains that the most agreeable climate of the United States is on the southeastern coast of Florida; that the atmosphere in winter is both moist and warm; that the winds are warmed by the gulf, and their violence lessened by the woods; that miasmatic fevers do not occur there in the late autumn and winter. He strengthens himself in these positions by the impartial records of the U. S. Army surgeons, which in addition inform us that on the east coast of Florida only one soldier in thirty-nine comes yearly into the surgeon's hands for diseases of the throat or lungs, while the favorable reports of St. Paul, Minn., show a proportion of one in nineteen. He thinks that Key Biscayne Bay (at which point there is at present only poor accommodation), has the best *warm* climate in the United States for invalids, while he recognizes the fact that no climate can be recommended indiscriminately to all.

Apart from the valuable information for the physician in this book, the general reader will find much to interest him.

(The phrase "fresh fields and pastures new" (p. 113) seems to have been suggested by the often misquoted last line of Milton's *Lycidas*:

"To-morrow to fresh woods and pastures new.")

C. E. B.

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## Extracts from Current Medical Literature.

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### OBSTETRICS—DISEASES OF WOMEN.

10. *Advantages of Tapping in the Treatment of Ovarian Tumors.* By GEORGE SOUTHAM, Esq., Manchester. (British Medical Association, Surgical Section.)

[*British Medical Journal*, Aug. 28, 1869.]

The author remarked that ovariectomy was now considered a legitimate operation; but, as the mortality was still very high, it ought not to be resorted to so long as the disease for which it was undertaken could be kept in check by other means, provided they did not impair the patient's general health and interfere with the success of ovariectomy. This, he believed, could be frequently effected by tapping. He gave the particulars of three cases, showing that it was sometimes followed by such favorable results that it might be regarded almost in the light of a curative agent. One patient was tapped in 1843, and again in 1846. On each occasion, upwards of twenty quarts of fluid were removed. After the second operation, there was no return of the disease for nineteen years. Another was tapped in the same year, six quarts of fluid being removed; she has remained in perfect health up to the present time. A third was tapped in 1865, when upwards of twenty quarts of fluid were extracted; and she also continues free from any return of the swelling. The cases were all unilocular cysts; and, as a fair proportion of ovarian tumors were of this character, he considered that, by resorting to tapping, the risk of ovariectomy might occasionally be avoided. Should tapping not prove successful, he considered that it generally placed the patient in a more favorable condition for ovariectomy. He referred to seven cases where he had performed ovariectomy subsequently to tapping, only one of which was fatal. He considered that patients submitted to ovariectomy in any early stage of the disease did not recover so favorably as those where the affection had been of longer duration; and, as tapping enabled the surgeon to delay the extirpation, he advised that it should be first resorted to, except under especial circumstances. He had found that ovariectomy in recent cases was frequently fatal from peritonitis. This, he considered, arose from the extreme sensitiveness of the peritoneum, which was lessened by the continual friction of the walls of the tumor against that membrane. He did not recommend a repetition of tappings, having found the second

and third operations to be not unfrequently followed by suppuration of the cyst. He concluded by comparing tapping, as performed in former days, when it was attended with considerable danger, with the plan now adopted, which had rendered it comparatively free from risk.

11. *Scarification of the Cervix Uteri in Inflammatory Affections of the Womb.* By R. H. MEADE, F.R.C.S., Consulting Surgeon to the Bradford Infirmary.

[*London Lancet*, January, 1869.]

The management of some of the diseases of the uterus often occasions much trouble and considerable disappointment to the surgeon engaged in general practice. I shall, therefore, make no apology for offering a few observations on the mode of treatment which I have found most successful in a class of cases which is perhaps more frequently met with than any other among these affections.

The forms of uterine disease to which I particularly wish to direct attention are those inflammatory states of the organ in which congestion, inflammation, and ulceration of the cervix play so prominent a part. The causes and varieties of these affections are very numerous. We often find the cervix swollen and red; sometimes it is partly denuded of epithelium, and assumes a granular appearance, having a velvety feel to the touch; and sometimes it is decidedly ulcerated. With regard to the causes, anything that produces determination of blood to the uterus, or excites inflammatory irritation of the organ, may bring on inflammation or ulceration of the cervix.

These complaints are, as might be expected, much more common among married than single women, and in many instances follow miscarriage, or labor at the full period of gestation. They often accompany menorrhagia and dysmenorrhœa. In most of these cases, as Dr. WEST has pointed out, the visible state of disease in the cervix is only an indication of a more deeply seated but hidden inflammatory condition of the body of the womb; the treatment, therefore, should be such as will relieve the whole organ.

These complaints are sometimes connected with, and apparently produced by, general constitutional disorder, and require appropriate general treatment. Still, many of them are in a great measure local, owing to the physiological peculiarities of the uterine organs. During the periodical determination of blood natural to the menstrual period, the uterus is exposed to increased danger from accidental causes, as exposure to cold, violent exertion, etc.; and marriage, pregnancy, abortion, and delivery are still more fruitful causes of local mischief. Our treatment, therefore, must be chiefly directed to the uterus itself.

Where true ulceration exists, great benefit will doubtless accrue from the use of caustics, the nitrate of silver appearing to me to be the one most generally applicable; but when the neck of the womb is enlarged and normally vascular, showing that the walls and lining membrane of

the body of the organ are similarly affected, what will relieve the patient so speedily or effectually as the local abstraction of blood?—and the point to which I wish to direct attention is as to the best mode of effecting that object.

Local bleeding has been prominently brought forward as one of our most powerful means of relief in the treatment of these cases, by all our best writers on uterine diseases; but the agents which they have principally recommended are leeches, which may be applied either to the cervix itself, the margin of the anus, or the vulva. Leeches applied to the lips of the uterus are very efficacious, but give a great deal of trouble. In London and other large cities nurses can be obtained who have been taught to put them on; but in the country, if used in this way, they must be applied by the surgeon himself, and the loss of time necessarily entailed by the personal performance of this operation will often cause it to be deferred or neglected altogether. I was formerly in the habit of ordering leeches to the anus, but not feeling satisfied with the relief thus afforded, and finding a dislike to the application of leeches among many patients, I was induced to try the plan which I now beg to recommend—namely, the direct abstraction of blood from the neck of the womb, by making incisions, or rather punctures, into its substance. Quite as much blood can thus be obtained as by means of leeches, and in a much more easy and rapid manner. The whole operation may be completed in two or three minutes, without any fuss or preparation, at the same time as the necessity for its performance is ascertained by an examination with the speculum.

In advocating this method of treatment, I do not bring it forward as any novelty, for I am aware that scarification of the lips of the womb has been recommended by many authors for the relief of congestion and inflammation of the cervix; but I cannot find, in the works which I have consulted, any precise directions as to the method of its performance. It has been compared to scarification of the palpebral conjunctiva, and I presume is therefore expected to be performed in a similar manner—namely, by drawing the edge of a sharp lancet lightly across the inflamed surface. Very little blood could be thus obtained, and I am not surprised at leeches being recommended in preference to scarification, in cases where much depletion is desired.

The plan I adopt is to make a number of punctures or stabs with a straight lancet-pointed bistoury, having a long handle, which stabs I make more or less deeply and more or less numerous, in proportion as I think it necessary to take away more or little blood. From one to two or three ounces may be easily thus procured. Of course, a speculum must be used, and the one which I prefer is a bivalve one, with wide flat blades. I think it is called TYLER SMITH'S speculum by the instrument makers. The blades are not very long, and, being wide at their extremities, when fully expanded they stretch and shorten the walls of the vagina, so that the cervix uteri readily falls between them, and is easily seen and reached. Another advantage of this speculum is that when closed it is very easy of introduction.

In this mode of abstracting blood it is seldom necessary to puncture or cut very deeply; but incisions in the lips or neck of the womb seem to heal very readily. I have never seen the slightest inconvenience follow, however deeply I have made them, with the exception of the bleeding being rather profuse.

12. *Injections of Warm Water in the Treatment of Uterine Inflammations and of Dysmenorrhœa.* By Dr. A. DESPRÈS, Surgeon to the Lourcine Hospital.

[*Bulletin Général de Thérapeutique.* May 30, 1869.]

Injectons of water at the ordinary temperature, cold douches, douches of mineral waters at a temperature nearly cold, have been vaunted in the treatment of chronic uterine inflammations, and even of acute. Cold injections have been recommended in dysmenorrhœa. The employment of cold under these conditions was one application of a more general method of treatment very much used at the present day, viz: hydropathy. During my service at the Lourcine Hospital I have been able to examine the effects of cold vaginal injections in all the uterine diseases, and I have not hesitated to substitute heat for cold, which latter I believe to be useless or injurious when a uterine inflammation exists.

The hospital has a system for injections that is invariable. A reservoir filled with water, in which alum has been dissolved, communicates by a pipe, running to the injection room, with a stationary faucet. The patients apply their canulas to the faucet and give themselves an injection. It will be seen that this constitutes a system of injections which are always cold.

I have remarked that at certain times the patients who, notwithstanding the cold, did not intermit their daily injections, had uterine discharges, sudden inflammations of the uterus, or even pelvic peritonitis. Three or four patients were taken at a time. With those who had a uterine discharge that had improved, it was seen to reappear, with new uterine pains. I was very careful with all these patients to learn whether they went to the injections, and whether it was not at the period of their menses that some pains had come on, as is quite frequent when the patients take cold. Struck with these facts, I had warm water injections substituted for cold injections for the patients afflicted with uterine inflammation, and I have not observed these relapses.

Cold water has the property of causing anæmia of the tissues

and of making the capillary vessels contract; after this phenomenon has taken place, the vessels dilate, the blood circulates in abundance in these canals, congestion occurs, and this is called the *reaction*. To the anæmia thus occasioned corresponds a painful sensation, and a sensation of heat afterward takes the place of the painful impression. In therapeutics, what is sought for when cold is employed? Is it the painful impression or the reaction? For uterine disorders, in particular, it can only be the reaction. Anæmia *a frigore* is too fugitive for us to take into account its action, but we must take into account the reaction that follows. If we seek for the reaction, that is to say the congestion, why make the uterus previously pass through a chilling process when by another agent we can obtain the congestion at once? In dysmenorrhœa it is the congestion that we seek to obtain, and we obtain it by employing cold water. But the uterus is chilled, and this is a cause of uterine inflammation, which is admitted by all physiologists, and which may be also the cause of a new arrest of the menses that are upon the point of appearing.

In view of the above considerations, I have come to the conclusion to have recourse to warm water for vaginal injections in all uterine inflammations. I have also established myself upon experience: warm lotions, warm cataplasms, have an incontestable effect in phlegmonous inflammation; warm water lotions for inflamed eyes, praised by LAURENCE, have an indisputable antiphlogistic property.

The theory of this action of warm water is easy to seize. According to my individual researches, inflammation appears to me to be a sort of drying up of a part, due to a loss of the water in the blood contained in a capillary mesh and in the neighboring tissue. Now, if we can restore the water to the blood, it is certain that things will be restored to their normal state. This is seen very well by the aid of the microscope in the frog's foot; when the interdigital membrane begins to dry, the blood stops in the vessels; if we moisten the membrane at this moment, the circulation is seen to re-establish itself. Water can be absorbed by imbibition of the epidermis, and the more the water is of a temperature near that of the body the better the water is absorbed. Everybody knows that in the warm bath man absorbs more water than in the cold bath.

In another point of view, warm water causes congestion of

the tissues. When bleeding from the foot was practiced, the limb was put into warm water. When a recent wound is dressed, and we wish to see whether the vessels bleed, we wash the wound with warm water. Nothing then is better demonstrated than the action of warm water in causing congestion of the tissues. This amply justifies the idea of administering warm vaginal injections to provoke the uterine molimen hæmorrhagicum.

[The writer goes on to support this statement of his opinion by giving eight cases in which he obtained good results from warm water injections. He also comments upon the cases, and concludes as follows:]

To recapitulate, from the cases that I have just cited, and from the experiments made with reference to this matter during the last eighteen months at the Lourcine Hospital, I conclude that injections of hot water of from 95° to 104° F. are an excellent calmative and a powerful antiphlogistic for the treatment of uterine inflammations, and that when they provoke a sanguineous discharge, it is a forerunner of improvement.

When there is a periuterine inflammation, even about an hæmatocele, warm water is still a good solvent, and hitherto I have not seen that warm water augmented the hæmorrhæge. It is true to say that the vaginal injection never reaches the vessel that emits the blood.

In dysmenorrhœa, warm water occasions congestion of the uterus, and the congestion is followed by a return of the menses, and consequently by a marked alleviation.

Finally, injections of warm water act like the cataplasm and warm lotions, which are so usefully employed in inflammations of the integument.

The injections of warm water are practiced at the hospital with irrigators, of which the jet is not very strong. The water used should be of 95° to 104° F., and it is renewed two, four, or six times in the day. This therapeutic means is convenient and not repugnant to patients—a good condition for its employment; beside it occasions no bad result.

[CHARLES E. BRIGGS, M.D.]

13. *On the Relations of Fibrous Uterine Tumors to the Puerperal State.* By Dr. HORWITZ, St. Petersburg.\*  
(Translated by GEO. H. BIXBY, M.D.)

[*Journal Gynæcolog. Soc. Boston*, October, 1869.]

. . . . . From the above cases, the following conclusions are to be drawn :

First, that under certain circumstances, conception is possible with the existence of a tumor; namely, when mucous polypi are not large enough to occlude the os, when the pedicle is attached to the lip of the cervix, and when the size of the tumor does not interfere with the ingress of the spermatozoa. The growth of the tumor is not influenced by uterine development during pregnancy, nor does it afford symptoms which might lead the patient to suspect its presence. A case reported by Dr. PRIESTLEY, of London, is an exception to this rule.

Mucous polypi interfere materially with pregnancy; in the majority of cases patients never reaching term. Dr. WEST, no doubt from the excessive bleeding caused by the presence of these polypi, considers them as a most frequent cause of abortion. Being accessible, the diagnosis is generally quite plain, and an operation possible without danger to pregnancy. As pregnancy approaches term, the polypus increases in size, but on account of its soft and flabby condition offers no hindrance to parturition. If necessary, it can be removed just before birth. Not unfrequently before birth we may have its strangulation and subsequent spontaneous discharge. With the exception of hæmorrhage, mucous polypi exert but little influence upon parturition. On the other hand, the fibrous polypus sometimes occasions the most serious disturbances, both during pregnancy and at parturition. It is very fortunate that from very large tumors only can this be the case. In its early stage of development the fibrous polypus is round, and as it progresses assumes a long appearance. From whatever point it may originate, it tends always to reach, if not to pass, the os uteri. In that form which springs from the fundus, after reaching a certain size, its mucous membrane, now quite unprotected, undergoes certain changes, such as chronic catarrh, which sooner or later involves the entire uterine and vaginal mucous surfaces. The uterus now being much enfeebled by the loss of blood, in exceptional cases only can conception take place.

This is true, also, of very large fibroids, for if conception occurs at all, it must be at the time of the very earliest development of the tumor. If conception takes place in such a case, the tumor increases gradually but persistently; the rapidity of its growth being augmented by the presence of pregnancy. If the tumor increases at the same rate as the uterus, then pregnancy can reach a favorable termination; but should the rapidity of its growth exceed that of the uterus, and thus materially interfere with its development, abortion or premature labor will be the inevitable result.

\* *St. Petersburg Med. Zeitschrift*, xiv., 293; *Schmidt's Jahrb. d. ges. Med.*, March, 1869.



As a rule, at the commencement of labor, a fibrous polypus affords no symptom, thus rendering the diagnosis quite impossible. In the author's case, the patient enjoyed the best of health, without the least suspicion of the existence of so formidable a trouble. In those cases when the polypus originates from the cervical canal, or from the lip, fatal hæmorrhage may ensue in the course of pregnancy.\* Generally, the hæmorrhage peculiar to fibrous polypi is absent during pregnancy. The blood, in flowing between the membranes and the uterine walls, there collects, and finally by rupturing the membranes induces labor. This does not often occur, and pregnancy may in certain cases terminate favorably in spite of a large tumor. The absence of hæmorrhage during pregnancy may be explained by the fact of a want of the conditions of a fibroid during that state. In the latter case the bleeding is caused by the pressure from the new formation, and also from the subsequent hyperæmia.

Finally, the polypus itself will become inflamed from the pressure upon it by the uterine walls. These conditions are not found during pregnancy, in which state the development of the uterus is gradual. According to the author's experience, fibrous polypi generally exert but little influence upon the course of pregnancy. The supposition would be to the contrary, namely: that from their size they would act as a mechanical hindrance, rather than as a cause of any anomaly in uterine pains. In parturition, on the other hand, they play a most important part.

A polypus situated at the fundus signifies its presence by no marked symptom. After delivery the involution of the uterus proceeds with perfect regularity, and the patient complains of nothing unusual. Uterine contractions exert no influence upon small polypi within the cavity, unless from irritation of their walls by a foreign body, or from after pains. In all cases of spontaneous expulsion, at other times than in childbirth, reported by the older or later writers, this result has been effected by pressure upon the abdomen, such, for example, as from violent and long-continued vomiting; or by gangrene of the pedicle, that form of polypus which passes through the os being liable to become strangulated. In childbed, on the contrary, the enfeebled and flabby condition of the uterus cannot exert much pressure upon the pedicle, which under these circumstances may assume a large size. In childbed, the round polypus is attached to a much stouter pedicle than the long form, measuring often one and one-half inches in diameter, and requiring days to sever with the ligature. It is true we may have gangrene during parturition, but the chances are that death would precede such a result.

Since it is generally admitted that downward traction by a polypus, upon the mucous surface of the uterus, favors inversion at other times than in childbed, how much greater, then, must be the danger during that state, when the uterus is large, with its walls thin and flabby.

In one of the author's cases, this condition was threatened, but it did not occur. From published accounts upon the subject, it does not appear that *inversio uteri* stands in any proportion to childbed. SCANZONI shows

\*GOOCH, Madame BOIVIN.

that, in twenty-two cases of well-established inversions, he had to do, not with fibrous polypi, but with tumors imbedded in the substance of the uterus.\* He explains the fact as follows: The part of the uterus where the tumor is situated, and the parts surrounding, become atrophied, and later undergo fatty degeneration. If there is contraction of the uterus under such circumstances, then the tumor which impinges upon the uterine cavity inverts that portion of the uterine wall which has lost its contractility, and finally produces a complete inversion of the organ. In the case of a polypus this is impossible, for here the uterine walls do not atrophy, but on the contrary increase in size almost like that of the pregnant state. Inversion of the uterus can only be possible when the uterine wall attached to the polypus has, in consequence of some pathological change in its structure, been deprived of its contractility. It must be conceded, a priori, that the closer the analogy between the structure of the polypus and the uterus, the nearer must be the relations of their physiological and pathological changes.

It has been already shown by numerous authorities that the growth of the polypus progresses in the same ratio as the uterus. On the other hand, we see less frequently reports of cases where the tumor has gradually diminished in size during pregnancy. KLOB says of uterine fibroma, that there is a possibility of its being absorbed during childbirth.† In the author's fatal cases, the microscope placed beyond a doubt the occurrence of this condition of things. In the last case, however, the diminution of the tumor was perceptible from day to day, lessening in size one half from the time of its discovery till its removal. OLDHAM saw a case in which the entire growth was destroyed by involution. The complete involution of a fibrous polypus in childbed has been fully authenticated. Although there may be nothing apparently unfavorable in its progress, yet the decision in regard to operative interference should be made with great care. One of the most important, and, according to the author's experience, the most frequent of results, is the different pathological processes which develop in the polypus itself. When this is complicated by childbed we have additional grounds for an unfavorable issue. It is easy to understand how the proximity of the uterus to the tumor should favor the transmission of the disease, from one to the other.

The rounder the polypus the shorter and more vascular its pedicle. This condition more often exists when there is a tendency to inflammation. If the inflammation be fully established, it becomes the most important from the fact that it occupies the extensive surface of the uterine cavity and the external surface of the tumor. The more vascular the part affected, the more unfavorable the prognosis. After a certain time suppuration is established with all its consequences, the most important of them being the more or less complete destruction of the investing membrane. The tissue thus broken down will be carried away by the lochia, or absorbed by the uterine sinuses, causing septicæmia. Should there be abscesses formed, these eventually burst, and their contents are absorbed.

\* BEITRAGE, 1868, v.

† *Wien. Med. Zeitschrift.*

These two consequences comprise the fatal issues of childbed complicated by fibrous polypus, the occurrence of which is the more probable according to the vascularity of the tumor, and its height of situation in the uterus. The degree of absorption will stand in proportion to the extent of the diseased surface. The size of the tumor is of minor importance, since septicæmia has been observed as frequently in small as in the larger forms of polypus. When childbed is complicated both by fibrous polypus and an interstitial tumor, the softening proceeds with greater rapidity. The danger from pressure, so frequently the cause of softening in the smallest polypus, is not present in the case of an interstitial fibroma, on account of the spacious condition of the uterus. If in these cases there be noticed the least sign of septicæmia, all expectant means should be abandoned, and the most energetic treatment pursued.

Upon the same grounds, operations in childbed are not more dangerous than at other times; in other words, the puerperal process is no counter-indication to energetic operative interference. To wait for involution would be to run the risk of purulent absorption, which would very likely occur before this point was reached. There are two considerations which would justify a delay in operating: first, when the pedicle cannot be easily reached, owing to its enormous size, in which case it would be necessary to await partial involution; and, second, when the tumor is so firmly adherent as to require instrumental or digital interference. If the operation is deferred for the latter reason, uterine contraction would only increase the difficulty. The author prefers the knife to all other means of operating—an opinion based upon the experience of English surgeons. In those cases where the os is firmly closed, it is with the greatest difficulty that the *ecraseur* can be applied, or the pedicle cut asunder either by finger or with scissors.

Two days' trial with ergotine, in order to bring the polypus near the os, not only failed, but rendered it still more difficult to reach. The author would advise the use of ergotine only in cases of severe hæmorrhage.

14. *Action of Opium upon the Uterus, particularly as a Parturient Agent.* By P. C. BARKER, M.D., Morristown, N. J.

[*New York Medical Journal*, June, 1869.]

"Parturition consists in the expulsion of the fœtus and its appendages from the cavity of the uterus, and ends in the separation of the child and the mother" (CHURCHILL.) It is accomplished by means of non-striated contractile fibres, which are practically muscular, and constitute what is generally termed "the muscular coat of the uterus." These fibres are arranged in longitudinal, oblique, and (circular) transverse directions. The first two predominate in the body, and the latter in the cervix, and particularly in the "*os uteri externum*."

Before the expulsive contractions commence which terminate the process, these circular fibres should relax, and the "*os*" become widely

dilated; but irregular contractions of the different sets of fibres, or contractions of the circular alone (constituting false pains), or rigidity of the "os uteri," due to tonic contraction of its circular fibres, often prevent this physiological dilatation, and prove the source of great distress to the patient and annoyance to the obstetrician.

It was in cases of this character that I discovered in opium a valuable parturient agent. I will narrate a few cases, which will illustrate how it became manifest to me:

*Case I.*—Mrs. H., about twenty-five, a strong and healthy woman, primipara, was taken in labor two P. M., July 15, 1862. Saw her soon after. Pains frequent, and of moderate severity; os dilated sufficiently to admit the point of the index-finger. Head presenting in first position. Left her for half an hour, and upon returning found her condition unchanged. Visited her at intervals until late in the evening, when, no progress having been made, ordered antimon. et potass.-tart., gr., 1-8, every half hour. Went home, leaving directions that I should be sent for if any change occurred. Messenger came for me about two A. M., 16th. No further dilatation. She complained very much of the severity of the pains. Tartar emetic, gr., 1-4, every half hour. No improvement resulting, and nausea being constant, it was discontinued in the morning, and a stream of warm water was thrown upon the os, by means of a DAVIDSON'S syringe, for half an hour. This was repeated three times during the morning.

Two P. M.—Still no dilatation. Patient a little feverish, and complaining of being very tired and sleepy. Ordered morph.-sulph., 1-4th, and left her to get a little sleep, while I went to attend to other engagements. Returning about an hour after, I found mother and child comfortably asleep side by side. About half an hour after taking the morphine she had a hard expulsive pain, and before any one could leave the house the child was born. The pains had not changed in character until just before the termination of the labor, nor had she been asleep.

*Case II.*—Mrs. O., thirty-five, multipara. Previous confinements easy. Taken in labor with her fourth child, November, 1863. Pains of same character as in case I. for sixteen hours, producing little dilatation. At one A. M. gave morph. sulph., gr. 1-3, hoping to quiet the pains. Left for home, a short distance away, and retired at once. Just as I was getting asleep, a messenger came for me in hot haste, stating that the child was born. Hastily dressing, I returned in time to remove the placenta. Less than three-fourths of an hour had elapsed since I quitted the house. She had but one pain, of different character from those which had tormented her so long unavailingly, previous to taking the morphine.

*Case III.*—Mrs. W., about twenty-four, primipara, sent for me early in the evening. Being absent from home, my former partner, Dr. F. D. LENTE, of Cold Spring, N. Y., answered the summons. Upon my return, I went to relieve the doctor. There was no dilatation, although the pains had been recurring for some time. We gave her morph. sulph., *rr.* 1-4, and went home, giving directions to send for me should any change occur.

On the following day, I learned that about half an hour after our departure she was seized with severe expulsive pains, which terminated before a messenger could be dispatched after me.

It is obvious that morphine was given in these cases, as it is usually given by the profession, if at all, with the intention of obtaining a respite from the pains, in the hope that when they returned they would be more efficient. I was surprised in each case at the result, although in the first I attributed it to the repeated use of the warm douche, from its recognized power in certain cases of this character. In the succeeding cases I was obliged to look for a different explanation, and at length concluded that the morphine increased the expulsive power of the body of the uterus to a degree sufficient to overcome the circular fibres and connecting tissue of the "os uteri." Further light was thrown upon the subject by the following case:

*Case IV.*—Mrs. G., twenty-eight, multipara. In labor a number of hours Os uteri remaining about half dilated, and rigid. Gave morph. sulph., gr. 1-4. About half an hour after, while making an examination during a pain, my first and second fingers being applied to opposite sides of the os, in order that I might observe the effect of the pain upon its hitherto unyielding tissues, I was surprised to feel it easily dilating.

In this case I suspected that while opium stimulated the fibres of the body of the uterus (longitudinal and oblique), it also relaxed the circular fibres of the os. Further observation, in a large number of cases of varied character, has convinced me that opium, instead of having a general anodyne effect upon the uterus, possesses this special power as a parturient agent. I say general anodyne effect, for while it sometimes quiets uterine contractions (witness its universal use for this purpose), yet it is in those cases in which the circular fibres are called into action alone, or where the longitudinal and oblique fibres contract irregularly—in short, *in false pains*. I am fully persuaded that *opium never did or can arrest a physiological labor*.

I have many times been called to cases in which the pains have returned regularly and with increasing intensity for a number of hours without producing dilatation to any extent, and after giving a full opiate, have had the satisfaction of finding a marked improvement after sufficient time had elapsed for its absorption, the patient having even harder contractions with less distress than before, and the os uteri being speedily dilated.

During the first stage of a physiological labor, I believe that the circular fibres of the os are passively relaxed; and that the active, usually gentle, contraction of the fibres of the body of the uterus serves to overcome the resistance which the tissues of the cervix and os present to dilatation.

Now, if the circular fibres of the os retain their tonicity, or if they contract with those of the body during a pain (and I have felt them contracting in a number of cases), no dilatation can be effected; or, at any rate, it will be with great difficulty, and the resulting distress will be greater than when they offer only the minimum amount of resistance.

The cases above narrated and referred to have taught me that opium possesses the power of relaxing the circular fibres, at least of the os, and of stimulating the longitudinal and oblique fibres into active contraction. It is upon these principles that opium is exhibited in dysmenorrhœa, when it is dependent upon spasmodic contractions of the circular fibres; or where it is owing to the presence of "menstrual decidua," clots, etc.

In abortions it is an invaluable remedy, facilitating dilatation, diminishing hæmorrhage, promoting the expulsion of the placenta, and lessening suffering.

Ergot, on the other hand, by causing contraction of the circular fibres, retains the placenta, and therefore should rarely be given (in abortion) until after the fœtus and secundines have been expelled.

*Placenta prævia.*—I have used opium in three cases of placenta prævia, one at the sixth month and two at term, saving the mother in each instance. In another case I attempted to turn, but, having made an erroneous diagnosis as to position, the placenta being planted directly over the os uteri, I introduced the wrong hand, and, failing to get hold of

the feet properly so as to bring them down, I detached the (entire) placenta rather than lose time by changing hands. I mistook a R. Occip. Post. for a L. O. Anter. position. The hæmorrhage ceased at once, and the mother subsequently did well.

I think that opium meets two important indications in *placenta prævia*:

1. It facilitates dilatation, thus shortening the period of greatest danger.
2. It promotes the expulsive power of the uterus. It also serves to lessen hæmorrhage by a special hæmostatic action.

It is an interesting fact that, in one of these cases, when the respiration was reduced to four in the minute by cumulative action of the opium, which had been too frequently repeated by mistake, the uterus expelled the child with one pain, thus illustrating my statement that opium does not possess the power of arresting normal uterine contractions.

*Hour-glass Contractions, etc.*—While hour-glass, cylindrical, or other irregular tonic contractions of the uterus (particularly those which occur after the expulsion of the fœtus) may be (and doubtless are sometimes) spontaneous, still in my experience they have always seemed to be due to ergot. Since I have learned the special power of opium, as set forth in this paper, I have used it in these cases with invariable success, although some of the most approved obstetric authorities say such use "is objectionable."

I will give the following cases in point:

*Case V.*—December, 1864. Mrs. McD., aged about thirty-eight. Primipara. Labor progressed steadily until the head had fully distended the perinæum. Retrocession followed every pain, and, as they were neither strong nor long, no progress was made. The vulva too was well dilated, and I gave f dr. iss. SQUIBB'S fl. ext. ergot to complete the delivery. Fifteen minutes afterward the peculiar contractions produced by ergot commenced, and the child was soon born. Placing my hand upon the fundus of the uterus (it having been pressed upon by the hand of an assistant while the child was being delivered and the funis tied and severed), I discovered it to be much elongated, reaching above the umbilicus; and, making a vaginal examination, found the placenta to be beyond the reach of my fingers, and, introducing the hand, discovered it so tightly grasped by an hour glass contraction that I could not remove it. Gave morph.-sulph., gr 1-3, noting the time. A little less than half an hour afterward, I was awakened (having fallen asleep from great fatigue) by a contraction of the uterus under my hand. The placenta was expelled with considerable impulse, and the uterus contracted down almost entirely below the os pubis (which, by the way, judging by my experience, it seldom does, teachers and text-books to the contrary notwithstanding.)

*Case VI.*—Mrs. S., multipara. A delayed labor dependent upon inefficient pains. Gave f dr. iss ergot. The child being born, I delivered the placenta at once (as I now invariably do after giving ergot). A cylindrical contraction immediately followed, the fundus rising considerably above the umbilicus, in fact almost as high as the ensiform cartilage. The cylinder was about three inches in diameter, firmly and uniformly contracted. An opiate was given, and in due time a permanent globular contraction followed.

Dr. J. D. TRASK, in his essay upon "Rupture of the Uterus," published in the *American Journal of Medical Sciences*, January and April, 1848, gives four cases of rupture of the uterus due to ergot. MALGAIGNE and others have reported similar cases. The following case is given to show how this accident *might* be produced in a diseased or even very powerful uterus, as well as to illustrate the apparently antagonistic effects of ergot and opium upon the gravid uterus:

*Case VII.*—Mrs. M., multipara, about thirty-five. Previous confinements easy. Present labor not worthy of note until the os was nearly obliterated, a ring only being left, when dilatation was for some unknown reason arrested, and no progress made for an hour. The uterine contractions then becoming inefficient, gave dr. iss ergot. As soon as the pains peculiar to ergot began, I made an examination, and found the os less dilated than before, and its fibres contracting with those of the body. Gave gr. 1-3 morph.-sulph. Within half an hour the pains had become more like those of a "physiological labor," the os uteri relaxed and became dilated, and the expulsion of the child speedily followed.

I gave opium in this case, with the expectation that it would produce a relaxation of the circular fibres of the os. It seems to have exerted this power in opposition to ergot as effectually as in the "hour-glass" and other irregular contractions above mentioned.

It may readily be seen that the simultaneous action of the ergot upon the os and body *might* have caused a rupture of the uterus. The contractions produced by ergot are continuous. I have often observed, however, that they have not been general, but have occurred in different sets of fibres successively. Herein lies one great danger of its use. In these, as well as all other irregular contractions of the uterus, I find opium a *prompt and reliable remedy*. In fact, I now use it in those cases of delayed labor dependent on inefficient uterine contractions, instead of ergot.

This property being established, the administration of opium admits of wide application in uterine therapeutics. In dysmenorrhœa, abortion, irregular contractions of the uterus of all kinds, previous, during, and subsequent to labor, and in placenta prævia as an adjuvant to BARNES' dilator, it will be found to be a valuable remedy; more certain in desired action (when given under proper indications) than any other remedy in our profession. Such at least it has been in my hands in quite an extensive obstetric experience.

In dysmenorrhœa, opium is given to quiet the contractions of the circular fibres (when this variety is present). In abortion, it is administered in the hope that the pains are caused by irregular contractions; and, if there is no dilatation (producing a partial separation of the membranes) it will often prove successful. If, on the contrary, the process has progressed so far as to render abortion inevitable, opium promotes it by relaxing the circular fibres of the os. It may appear at first strange to hear such apparently opposite properties ascribed to a remedy; but there is no inconsistency in the statement. The irregular (colicky) contractions do *not* constitute abortion, but they may produce it; and there is much less risk in a temporarily relaxed os uteri without pain than in a normal condition of the os with contractions of any kind in the body. In the "irregular contractions" at term (as in Cases v. vi, and vii), it acts promptly.

I will state that cases might have been multiplied to a large number illustrating this subject; but the practical value of my paper would not have been enhanced at all, as the cases selected are as well or better marked instances, each of its kind, than any others recorded by me since I commenced my observations seven years ago. (I had previously observed its powerlessness in quieting physiological uterine contractions, in the lying-in wards of Bellevue Hospital, while an interne.)

With respect to the mode of administration, I am not aware that it makes any difference what preparation of opium is used. I have generally employed solid opium pills, grs. 1 to 3, or morph.-sulph. gr. 1-6 to 1-2 (the latter given dry on the tongue if nausea is present) at term. In abortion, if seen early, I give enemata of corresponding strength, usually employing from 3 ss to 3 i doses of opii tinct. in a tablespoonful of warm water, to be repeated after three hours if the pains continue, or later, if they return after being quieted. If abortion cannot be prevented, the hypodermic syringe and BARNES' dilator or tampon are preferable. I have not used the hypodermic method at term, having been satisfied with the more gradual effects of administration by mouth, and besides I have thought that perhaps its rapid absorption into the maternal circulation *might* be injurious to the child. I have never observed any such effects following the administration by mouth. And, what is very singular, it seldom induces somnolency in the mother.

There are cases in which the os uteri (from previous inflammation) is almost, and sometimes entirely, undilatable, over which opium (in common with all other known therapeutic agents) exercises no control, and for which the knife is the remedy.

In conclusion, it will be seen that the theory set forth in this paper explains phenomena in the action of opium upon the gravid uterus which have hitherto, from the time of DENMAN to the present, been regarded as exceptional; and that it establishes the value of this remedy as a parturient agent.

My object in calling the attention of the profession to these peculiar and very useful properties of opium has been the promotion of a wider knowledge, and a more general application of them in practice; and I feel assured that, if opium is administered in the conditions and doses above indicated, it will not disappoint the obstetric practitioner.

#### 15. *Case of Irreducible Retroversion of the Gravid Uterus—Paracentesis Uteri.* By Dr. HEAD.

[*Brit. & For. Med.-Chir. Review*, July, 1869, p. 27; from *London Hospital Reports*. Vol. IV, 1867-68.]

The subject of this case was a woman, æt. 19, who was in the sixth month of pregnancy, and who had sustained a blow in the left lumbar region about six weeks before she applied for assistance at the hospital. It appeared that she had experienced great difficulty in passing her water, and suffered extreme pain; but no attempt was made to draw off the urine, although she was taken into a workhouse. When she arrived at the hospital there was a large ovoid tumor above the pelvis, looking like a distended bladder; the perinæum was also very much distended, and so was the anal orifice. An attempt was made to pass a catheter, although without effect; but the urine was made to pass by pressing forcibly with the finger at the apex of the vagina. An attempt to rectify the position of the uterus was also unsuccessful. Under these circum-



stances, and after consultation, Mr. MAUNDER passed a trocar into the uterus through the anus, and a large quantity of liquor amnii came away. Immediately afterwards a large loose motion was passed, and the next day the fœtus and placenta were expelled; and although the symptoms for some time were very alarming, the patient eventually recovered completely. Dr. HEAD, in his remarks on the case, strongly recommends that in every case of retroversion of the gravid uterus the contents of the bladder should be evacuated. The puncture of the uterus for the discharge of the liquor amnii was an operation first proposed by Dr. WM. HUNTER, in the circumstances of Dr. HEAD's case, and the operation was justified by the results.

16. *Chronic Acid in the Treatment of Menorrhagia and Uterine Leucorrhœa.* By DAVID WOOSTER, M.D., of San Francisco, Cal.

[*Amer. Journal Med. Sciences*, Oct., 1869. p. 367.]

Menorrhagia, like menstruation, occurs from the whole mucous lining of the womb, and is merely an excessive exosmosis or transudation of blood from the vessels into the mucous follicles which they surround. From the open mouths of these follicles the blood is poured into the cavity of the womb, from which it readily escapes through the patent *ostia*, to be replaced by a fresh supply, and so on, until the congestion of the uterine vessels is relieved in menstruation, or until the excessive setting of the hæmorrhagic current in menorrhagia is diverted; *a*, by cessation of the heart's motion, as in syncope; *b*, by changing the plasticity of the blood, as in the use of iron and cod-liver oil; *c*, by contracting the uterus and the muscular coats of the vessels, as with ergot; *d*, temporarily, by mechanical means, as with a vaginal tampon, by which a clot is produced in the cavity of the womb, to be afterwards expelled by labor-pains or to undergo solution in a more abundant transudation of blood; or, finally, by any means which shall arrest the transudation of blood over the whole mucous surface. For example, by an astringent escharotic so mild in its astringency as not to coagulate albumen before it has had time to penetrate the full thickness of the hæmorrhagic membrane, and so promptly and efficiently escharotic as to condense the follicles, so that no more blood can be poured into them through their patulous walls, or through such portions of them as are already denuded of epithelium by persistent hæmorrhage.

Tincture of iron fails in this indication, because it immediately produces a clot which constantly increases from subjacent accretion. Tannin or alum acts similarly. Solid nitrate of silver produces a solid superficial eschar, which, falling off, leaves a new hæmorrhagic surface; and furthermore, it acts on the uterine tissue much as it does on the glans penis in chancre, producing increased congestion and painful erection; or in the womb a sense of extreme tension, described by the patient under the terms "bearing down," "fulness," etc.

Zinc and lead lack the cauterizing quality requisite, except the chloride of zinc, which is far too active if used in cauterizing strength, and dangerous to life from absorption, if used in milder dilution.

Thus I was led to use *chromic acid*.

Chromic acid ( $\text{CrO}^3$ ) is isomorphic with ferric acid ( $\text{FeO}^3$ ), and it is probable that chromic acid is as harmless when absorbed into the blood as manganic or sulphuric or ferric acids, with which it is isomorphous.

Chromic acid is an oxidizing agent of slow but persistent action, and of considerable power on account of the facility with which it is reduced to the sesquioxide of chromium, isomorphous with sesquioxide of iron, and quite as harmless to the economy in certain doses.

I have now used chromic acid in several instances, both for menorrhagia and uterine leucorrhœa, with uniform and absolute success. I use the chromic acid in leucorrhœa in the strength of fifteen grains to a drachm of hot water, having first dilated the cervix with sponge tent. One injection is generally sufficient, when the general health is not seriously impaired.

The injections in any event should not be repeated in less than four or five days; unless the cervix be well dilated before the injection, the most alarming collapse may supervene in a few moments. The same thing will often happen even if the cervix has been well dilated, unless the patient remain in bed at least twenty-four hours after the injection. Notwithstanding these *possibilities* of harm, the chromic acid is perfectly harmless if used with the precautions suggested; and if it will cure a chronic uterine leucorrhœa, it is certainly worth the trouble of being carefully handled, and its *possible* dangers are no greater than might result from the careless use of salt and water. If labor-pains and tendency to collapse should supervene from the carelessness of physician or patient, hot fomentations to abdomen, lavender and ammonia or brandy internally, with absolute rest in bed, will afford prompt and permanent relief.

17. *On Seatangle Tent.* By BRAXTON HICKS, M.D., etc., Physician-Accoucheur, and Lecturer on Midwifery at Guy's Hospital.

[*The Practitioner*, August, 1869. p. 83.]

Of all the materials used for dilating the cervix uteri there are none so cleanly, efficient, and convenient as those made from the *Laminaria digitata*. Although now largely employed by many, they are not so well known as they deserve to be; and therefore allusion to the subject may not be altogether useless, nor some practical hints unacceptable to some readers.

This material can be made into tents of various forms and sizes, but as the dried stem of the alga usually employed does not exceed half an inch in diameter,\* tents required of a larger size must be made by fastening

\*As other larger varieties of algæ will hereafter probably be found equally useful with the *Laminaria digitata*, it is desirable that investigations be made in this direction.

together a sufficient number. They may be grouped in three, five, seven, etc. But perhaps it will be found most convenient for the very large size to combine groups of three in one large bundle; they may be tied together by twine at the base, but at their apex it will be best to employ a small elastic band. These can be obtained ready made up.

Some are made in two halves pegged together. Some are made tubular to permit of the introduction of a stillet, which, passing two inches beyond the end of a catheter, forms an easy contrivance for reaching the os without the speculum, and also to permit the secretions to flow through it. The smallest sort, from 1-12 to 1-8 inch in diameter, are used for dilating the rigid or contracted os and cervix, either alone, or preparatory to the use of the hysterotome. The tubular form cannot be made below a certain size, as it is found impossible to drill a hole through them if too attenuated.

I have found that they distend to about three times their original diameter, and that in an ordinary state of the secretions they reach their full distention in about fifteen hours; of course some variation will be found in this respect, especially between the different sizes, for the larger they are, the longer the time occupied for them to become wet in their interior, and therefore, generally speaking, the large bundles produce their effect quicker than if made of one piece of an equal diameter to the combined. These two points are important to bear in mind, because where we have to dilate the cervix to a considerable size, and we require to follow in succession, it is best to introduce the next sized tent as soon as the previous one has attained its full dilatation. To leave it in beyond that time not only delays the operation uselessly, but adds much to the chances of uterine irritation. We must therefore have at hand a series of three for general purposes. For instance, when we wish to dilate the cervix in order to pass the finger in easily into the cavity, supposing we begin with one of 1-8 inch diameter; the next size should be nearly 3-8 inch, and the last (if another be required) should be nearly 1 inch diameter: as this would expand to nearly three inches at its fullest, it would not be requisite to allow it to remain in—unless in a case of pregnancy or imperfect miscarriage, where we want the fullest expansion—so long as to its complete expansion, say for ten hours. Where slight dilatation only is required, then one is sufficient, and it should be removed in twenty or twenty-four hours at the longest. For dilating further, we may group the smaller bundles in any numbers we like, but it will seldom be required to go beyond an inch diameter for the last one. If we wish the tents to be more rapid, then it is best to soak them in cold water a short time before introduction.

In conclusion, I may point out the special advantages of tents made of seaweed.

1st. They can be made of any size, particularly much smaller than sponge tents.

2d. They have more distending power. The rigidity of the inner os uteri is sometimes so great that even these tents are distinctly marked by

it; but the sponge tents not at all unfrequently are unequal to produce any marked impression on the constriction.

3d. They do not retain the secretions so as to produce so much offensiveness, consequently there is less risk of irritation locally or generally.

4th. By their greater rigidity they can be more readily applied, especially in a tortuous canal.

They have, however, some disadvantages:

Their rigidity makes them not so suitable in cases where the uterus is readily bleeding, or very tender; nor in cases where the os is somewhat dilated by a polypus or growth distending it. Here a sponge tent is best unless the os and cervix are very rigid.

Their great distensive force makes them less acceptable where the uterus is very irritable.

They should be in all cases so made that no sharp edge be noticeable. In the tubular tents this is a point liable to be overlooked.

And for the dilatation of the os uteri in a natural state for purposes of induction of premature labor, these tents are not by any means so suitable as the sponge tents, or as the India-rubber bags.

With these exceptions, in cleanliness, certainty of action, ease of introduction, and minuteness, they are certainly not equalled by any other material at present in use.

#### *MATERIA MEDICA AND THERAPEUTICS.*

11. *Action of Mercury, Podophylline, and Taraxacum, on the Biliary Secretion.* By J. HUGHES BENNETT, M.D., F.R.S.E., &c.

[*British Medical Journal*, May 8, 1869.]

The Edinburgh Committee for the investigation of the physiological action of mercury and other supposed cholagogues upon the secretion of bile, report, through their chairman, Dr. BENNETT, the results of their inquiry, which "occupied two years, and, so far as the Committee believe, is quite exhaustive, and leaves nothing to be desired." We extract from the very lengthy and detailed report the conclusions arrived at.

##### *Results of the Observations on the Cholagogue Action of Pilula Hydrargyri and Calomel.*

1. *Pilula hydrargyri*, when given in doses which did not produce purgation, caused no increase of the biliary secretion.

2. *Pilula hydrargyri*, when given in doses which produce purgation, diminished the biliary secretion.

3. Calomel, given in doses of one-twelfth of a grain, from six to fourteen times a day, and in doses of two grains from two to six times a day, did not produce purgation or increase the biliary secretion.

4. Calomel, when given in doses which produced purgation, diminished the biliary secretion.

*Results of the Observations on the Cholagogue Action of Corrosive Sublimate.*

These two series of observations on dogs 7 and 8 so closely resembled each other, and were so perfectly carried out, that there was no possibility of fallacy. They show—

1. That corrosive sublimate, when given in small doses, gradually increased in strength, does not augment the biliary secretion, but that it diminishes it the moment the dose reaches a strength sufficient to deteriorate the general health.

2. That corrosive sublimate given in the above method may diminish the biliary secretion, while it does or does not produce an evident action on the salivary glands and mouth, and without producing purgation.

3. Case 6 shows that the biliary secretion is likewise diminished when this drug is given in a dose sufficient to produce purgation.

*Conclusions regarding the Cholagogue Action of Mercury.*

The foregoing observations seem to us clearly to show that blue pill, calomel, and corrosive sublimate, when given to dogs in either small, gradually augmented, or in large doses, do not increase the biliary secretion; they do not even influence it so long as neither purgation nor impairment of health are produced, but they diminish it as soon as they produce either or both. It may be urged that, although we have proved this regarding dogs, it does not follow that on man these drugs will have the same action. It must be admitted that some animals are altogether insensible to remedies which produce powerful effects on others; that different doses are often requisite to occasion similar results; and that there may be peculiarities so very decided as to render it impossible to infer what will be the action of a remedy on one animal from its influence upon another. But have we any reason to conclude that in the present instance there exists such difference in the action of mercury as to prevent any inference being drawn from the dog regarding man? All the facts with which we are acquainted show that it is legitimate to infer that the action of mercury ought to be regarded as similar in both cases. We have demonstrated that, as regards its action upon the salivary glands, mouth, intestine, appetite, and general nutrition, the influence of mercury is the same. We therefore infer that it is in the highest degree probable that its action on the hepatic secretion will also be the same. The only difference that there seems to be between the dog and man as regards the action of mercury, consists in the fact that in the dog larger doses are generally required to produce the same effects as those observed in man. But even here it may be argued that more marked results are required to satisfy the observer, and hence the greater dose necessary. These circumstances, therefore, cannot be held as affecting the conclusion at which we have arrived.

We have not deemed it worth our while to experiment upon any other animal, for we are unable to see how such experiments could materially

strengthen our position. Even though we had shown that mercury, when given to a rabbit, cat, pig, donkey, or horse, diminishes the biliary secretion, it might still be said that this does not apply to man. . . . But some may say that, although we have proved that mercury diminishes the biliary secretion in dogs, and that in man its action will in all probability be the same, yet our experiments have been performed on animals in a state of health; and that, had they been made on dogs with diseases such as those in which mercury has been *supposed* to increase the hepatic secretion, it would possibly, in the case of such dogs, have been increased. With such an hypothesis we need not seriously occupy ourselves until the objections *prove* that, in any case whatever, mercury can increase the biliary secretion in man.

We have been unable to discover any facts brought to light in this or any other age which prove that mercury stimulates the biliary secretion. So far as we can make out, the notion that it does so originates in some vague statement made by PARACELSUS, or the authors of his time, as to the good effects of mercury in what he has called "icteritia." But we repeat, not only do we not know how such a notion has arisen, but we are ignorant how to make direct observations on the subject in man. We have already stated that such observations are, in the present state of physiological chemistry, impossible. We do not deny the possibility of mercury being useful in some diseases of the liver. We simply say that the notion of its doing good by increasing the biliary secretion is untenable.

#### *Results of the Observations on Podophylline and Taraxacum.*

1. Doses of podophylline, varying from 2 to 8 grains, when given to dogs, diminished the solid constituents of the bile, whether they produced purgation or not.
2. Doses which produced purgation lessened both the fluid and solid constituents.
3. During an attack of dysentery, both the fluid and solid constituents of the bile were greatly lowered.
4. Doses of the solid extract of taraxacum, varying from 60 to 240 grains, affected neither the biliary secretion, the bowels, nor the general health of the animal.

#### *Influence of Purgation upon the Biliary Secretion.*

The observations of the Committee conclusively show that purgation produced by a variety of causes diminished both the fluid and solid constituents of the biliary secretion. Spontaneous diarrhœa, dysentery, purgation produced by pilula hydrargyri, by calomel, by corrosive sublimate, and by podophylline, always diminished the solid constituents of the bile, and, with one exception, the fluid portion of the bile also. That purgation diminishes the biliary function of the liver, is one of the most important facts established by the Committee. It is, however, nothing more than what might have been expected, seeing that purgation drains the portal blood, from which the bile is almost entirely formed.

12. *Hydrate of Chloral as a Hypnotic and Anæsthetic.* By Dr. O. LIEBREICH, Berlin. (Berlin, 1869. 8vo.)

The author describes the new remedy as follows: The Hydrate of Chloral, *Hydras Chlorali*, crystallizes in fine needles, which can be melted together into a solid mass of crystals; if kept at the bottom of closed vessels, they will sublime upon the walls of the vessels in extremely fine crystalline needles that are quite colorless. They are entirely soluble in water, and only if kept for a long time will the solution become slightly opalescent. The crystals have a peculiar, somewhat penetrating odor. The aqueous solution is neutral; it should not be rendered cloudy by the addition of nitrate of silver. The crystals being treated with concentrated sulphuric acid, a *colorless* oily layer should form, which soon congeals into a firm mass. The solution in water being mixed with liquor potassæ, a milky cloud should immediately appear, which disappears in a few minutes; at the bottom of the vessel a drop of clear, colorless chloroform is then deposited which should have a pure odor and all the properties of pure chloroform. Pure chloral boils at 94° C. It is best preserved in bottles provided with a glass stopper. The solutions should likewise be preserved in carefully closed bottles.

The author's remarks on the applicability of chloral in medicine appear of sufficient importance to be transcribed entire:

While the experiments on animals have clearly shown the action of chloral to consist in a direct influence upon the ganglia of the cerebrum, spinal cord, and heart\* in a certain order of sequence with larger intervals, the therapeutical experiments on man above communicated give only the first stage—the influence upon the cerebral ganglia—and the first beginnings of the second stage. However cautious one should be in general in applying directly to man the experience made on animals concerning the effects of different substances, I yet believe that the anæsthesia already effected by chloral in animals justifies the confident expectation that in man also that stage of anæsthesia necessary for larger surgical operations may be reached by proper doses of the remedy. How far this remedy may then be preferable to chloroform, can be decided only by the practical success . . . Its employment in minor operations seems, as Case vi proves,

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\* *Id est*, sleep—anæsthesia—syncope. [Tr.]

highly recommendable, and I believe that, with a dose of about 4 or 6 grm. for a normal man, operations on the eye and the smaller operations on the extremities can be better executed than with chloroform, and that this narcosis offers greater advantages in so much as, on the one hand, the stage of excitement is wanting, and, on the other, the subsequent, always desirable, hypnotic effect is not disturbed by the operation. (Cf. Cases vi and viii.) . . .

While the use of chloroform at present is chiefly confined to surgery, its employment in internal medicine has not, thus far, been generally adopted. However desirable and clearly indicated it was, in a large series of cases, to take advantage of the hypnosis by chloroform in internal medicine, yet the difficulty of administration, which can only be through the lungs, the disagreeable stage of excitement, and the relatively short duration of the hypnosis compelled us to abstain from frequent use of it. Chloral, on the contrary, from a general consideration of the cases observed, may be regarded as *a remedy which induces sleep with certainty, and without subsequent injurious effect*, and which may be administered internally as well as subcutaneously without difficulty, being soluble in water. From the peculiar physical qualities of the remedy, however, one decided counter-indication results. Chloral in aqueous solution is in slight degree caustic; its internal use must therefore be omitted in all cases in which there are defects or ulcerating surfaces in the mucous membrane of the intestinal tract. I also believe that tubercular affection of the larynx may be found a counter-indication. In these cases, however, there is nothing to oppose the subcutaneous use of it.

The purely hypnotic effect will probably render this remedy indispensable in all painful inflammatory affections in which narcosis is admissible; I will only allude to acute articular rheumatism, etc. In neuralgias also, tic douloureux, sciatica, and in gastralgia and enteralgia, in so far as they are of purely nervous character, in whooping cough, (in which chloroform has already been used with success), in laryngospasmus, singultus, and nervous asthma, tetanus and trismus, the properties of this remedy call for its employment. Especially might the use of chloral be recommended in those very severe excentric pains in tabes dorsalis, sometimes resisting even the largest doses of morphine.



In cases of biliary calculi, in which chloroform is recommended both as an anodyne and with a view to the solution of the chemical constituents of the stones, chloral may be particularly indicated, because, aside from the intended mitigation of pain, the chloroform generated in the blood current itself can effect the solution of calculi far sooner than the chloroform given internally, which can be but slowly absorbed.

Respecting the indications of chloral as a pure hypnotic, I think I need not enumerate them here, for the histories of cases communicated above most distinctly show, that chloral not only can take the place of morphine in all cases in which the latter is indicated as a hypnotic, but excels it in many points. In those cases of insomnia in which morphine disappoints us, chloral will surely prove more efficient; Case xvij seems to point out more especially, that in respect to the rapidity of effect, which in delirium tremens, e. g., often is urgently desired, a similarly successful remedy of the *materia medica* is not known to us . . . I also believe that chloral, given every hour in smaller doses than those hitherto administered, will act as a *sedative* that will bring quiet in nervous excitement, in excited insane patients. In the case of children we are in great want of hypnotics, as the use of morphine in small doses is counter-indicated in children for fear of cerebral irritation; chloral, on the contrary, I believe I may conscientiously recommend even for the youngest children, the experiments on animals having excluded entirely any irritative stage.

Chloral can be administered only in aqueous solution; when small doses only are required, it may be given in water alone, but when the solution is to be more concentrated, its bitter and somewhat acrid taste should be masked by the addition of a corrigent, such as mucilage, or syrup of orange peel. Alkalies, of course, are incompatibles.

The solution for hypodermic injection (5 grm. in 10 cubic centimeters) should be quite neutral; if a trace of hydrochloric acid be present, it may be neutralized with a little ammonia.

13. *Quinine as an Antiphlogistic.* Inaugural Dissertation by ADOLPH MARTIN. Giessen, 1868.

[Reviewed in the *Practitioner*, August, 1869.]

The author has made researches upon the action of quinine upon animals, which confirm, and in some respects extend, the conclusions of

Professor BINZ, as to the power of quinine directly to arrest the inflammatory process by checking the migration of the blood-corpuscles. As the opinions of BINZ have lately been criticised with a good deal of freedom, as if they were the unsupported dicta of one observer, it is of consequence that the independent corroborative evidence here brought forward should be widely known.

While BINZ and SCHARRENBROICH had produced a very large amount of evidence apparently proving that quinine, and a number of other remedies, have a specific influence in checking the vital amoeboid movements of the white corpuscles, it was left an open question by the former (*Ueber das Wesen der Chämikirkung*, Berlin, 1868), whether or not this influence extended to actual prevention of the passage of the corpuscles through the vascular walls in inflammatory conditions. Dr. MARTIN addressed himself to the consideration of this further question. His experiments on frogs were conducted on the model of COHNHEIM's famous researches: the animal being paralyzed with curara, the mesentery was drawn through a wound in the abdominal wall, and spread out upon perforated slices of cork for microscopic examination. In a preliminary series of studies the author thoroughly familiarized himself with the phenomena, first described by COHNHEIM, which occur when the inflammatory process is allowed to develop itself unchecked. He then began comparative experimentation: two frogs of equal size being simultaneously paralyzed with curara, in one the inflammatory process was allowed to run an uncomplicated course, in the other quinine was injected simultaneously: every stage of the subsequent changes was in each case sedulously watched. This double experiment was repeated with several pairs of frogs: and besides this, the effect of directly painting the mesentery with a solution of quinine was tried in several instances. The results were very decided. In the animals not treated with quinine the characteristic dense agglomeration of white corpuscles along the walls of the vessels was strongly marked, and the migration processes went on freely: simultaneously there was notable dilation of the vessels and slackening of the stream. In the frogs treated with quinine, all these phenomena were invariably much more feebly developed: sometimes they were only present in trifling degree. In the sixth experiment, the direct application of quinine to an already inflamed mesentery, in which extensive migrations had already taken place, produced evident and notable changes in the white corpuscles: these did not cease to migrate, but became dark, granular, and indented, and lost their vital movements as soon as they had passed outside the vessels.

Besides these experiments, MARTIN made some observations on dogs, in order to test the assertion of BINZ and SCHARRENBROICH as to the effect of quinine in diminishing the number of white corpuscles. As with the frogs, two animals of equal size were simultaneously and comparatively experimented upon. The result of this research was very remarkable, the difference between the number of white cells being far too great and too constant to have been the result of accident: and, moreover, it was

evident that, as the action of a single dose of quinine passed away, the white cells began to multiply again with great rapidity.

The final series of experiments made by MARTIN were directed to the novel object of testing the cause of events in parenchymatous organs; and after expending much trouble, he succeeded in following the cause both of the simple and the modified inflammatory process in the liver of the frog. Here, again, the effect of the quinine was unmistakable.

The general results of the whole inquiry conducted MARTIN to the following conclusions:—1. Quinine limits the pathological migration of the blood-corpuscles into the tissues of the membranous and parenchymatous organs exposed to the air, both when it is given subcutaneously and when it is directly applied to the part. 2. It produces this effect, (*a*) by impairing the vital properties of the existing white corpuscles, (*b*) by hindering the generation of new white corpuscles, and (*c*) by restraining the dilatation of the vessels. 3. Quinine acts as an anti-phlogistic, by reducing all the visible factors of suppurative inflammation. 4. The use and the efficacy of quinine in other pathological conditions distinguished by multiplication of white cells, *e. g.* typhus, leukæmia, &c., is based upon and explained by its relations to the life and the formation of these corpuscles.

We strongly recommend our readers to study this pamphlet of Dr. MARTIN'S, which certainly conveys to our minds the impression of thorough and patient scientific research leading to sound conclusions. It is difficult to exaggerate the importance of the therapeutic ideas which have been put forward with so much energy and ability by Professor BINZ; and although experience forbids us to hope that quinine or any other drug can prove a universal specific for the inflammatory process, it will be a great gain if further observation shall confirm the accuracy of researches which throw such a flood of light upon the way in which one kind of inflammation, at least, can be scientifically arrested. It is impossible not to feel more hopeful for the future of scientific therapeutics when we read the results of such labors as those of M. MARTIN.

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## Editorial.

### *DR. WATTERS' DOCTRINES OF LIFE.*

By the series of documents we publish below, the "controversy" which we have admitted into the pages of the Journal, relating to the doctrines of life advocated by Prof. WATTERS, is closed, so far as Dr. WATTERS and this Journal are concerned. The papers need no further comment. The *Lancet*, a London medical periodical of the very highest standing, calls forth these papers by (as will appear below) an undignified and wanton attack upon Dr. WATTERS, in which it attempts to set aside Dr. WATTERS' scientific claim by perverting it into a personal injury to Dr. CARPENTER. For our own view of the matter, in lieu of reiteration we refer the reader to our remarks on Dr. CARPENTER's Letter on page 279 of the previous volume (1868) of this Journal. As the *Lancet*, by its article, creates an erroneous impression in regard to the controversy, and that, too, intentionally, as appears from its refusal to publish Dr. WATTERS' correction, we feel obliged to give a place to these documents.—Ed.

### *EDITORIAL OF THE LONDON LANCET, APRIL 10th, 1869.*

#### "Dr. WATTER's Charge of Plagiarism against Dr. CARPENTER."

"We are never inclined to be hard on that numerous class of scientific writers—the men with grievances. It must be allowed that there is something singularly attractive in the prospect of a reputation for original discovery in science, and something correspondingly disagreeable in finding that the world generally attributes discoveries, which we fancied our own, to some one else. The complaints of men who think themselves thus robbed are natural enough, even when they are unfounded. But in this latter case they frequently become a public nuisance, and a certain degree of pertinacity on the part of those who urge them is apt to excite an uncontrollable desire in the minds of impartial persons to get rid of the grievance and the grievance-monger by the most summary means available.

"We are not going to enter into the controversy in which Dr. WATTERS, of America, tries to fasten on Dr. CARPENTER the theft of his 'doctrines of life.' We have already expressed the opinion—and we cannot help repeating it with some indignation—that a scientific man of Dr. CARPENTER's long-established reputation, both for original research and personal probity, ought not to be subjected to an accusation of this kind, except on the most stringent proofs advanced against him; and it is with surprise, as well as with regret, that we observe the disposition of some

of our American medical contemporaries to support a charge which appears to us extravagant and unjustifiable. Ever since the year 1850 Dr. CARPENTER has been steadily developing a doctrine of vital action, which, right or wrong, is throughout consistent. Dr. WATTERS makes the extraordinary mistake of supposing that a doctrine which was many years older than this date, and which Dr. CARPENTER never claimed for himself at all,—viz., that vital motor force is reciprocal with decay—was discovered by him (Dr. WATTERS) in 1851; and we must be pardoned for saying that such a mistake is sufficient to put its author out of court in any argument respecting the ‘doctrines of life.’ Dr. WATTERS also takes credit for originating the idea that the function of the germ, and subsequently of the organism, is to determine the *direction* in which the forces originated by tissue-change shall act; but this is a mere necessary complement to the doctrine of force-making tissue-change. Finally, he appears unable to understand either the doctrine of correlation of physical forces, or Dr. CARPENTER’s application of it to vital phenomena; at least, if this is not the case, he has expressed himself in the most unhappily confused language in those specimens of his writing which we have seen.

“We do not at all desire to underrate Dr. WATTERS’ own merits, however; and it would appear that a really distinguished American writer, Professor LECONTE, to whom Dr. CARPENTER has freely expressed his own obligations for the original idea of a certain portion of his speculations, thinks highly of Dr. WATTERS’ work. But it is not quite tolerable that Dr. WATTERS should now assert that a bundle of papers which he, a perfect stranger, sent to Dr. CARPENTER some seventeen years ago, after Dr. CARPENTER had already published the groundwork of all his future writings on the doctrine of life, and which probably found their way instantaneously to the waste basket, were surreptitiously converted to his own uses by the distinguished English physiologist. The charge is a serious offense against good manners and good feeling, and we hope Dr. WATTERS will have the grace to retract it.”

519 LOCUST STREET, ST. LOUIS, June 12th, 1869.

*To the Editor of the Lancet:*

SIR: My attention has been directed to an editorial in the number of the *Lancet* for April 10th, under the above heading. While I assume you are sincere in the positions taken in that article, yet, as I stated in my reply to Dr. CARPENTER’s letter, published in the *ST. LOUIS MEDICAL AND SURGICAL JOURNAL* for May, 1868, I *did not* charge Dr. CARPENTER with “plagiarism” or “theft.” I *did*, however, make the statement that Dr. CARPENTER had *recently* published doctrines of life in many respects identical with those I published in 1851, and that he gave *me* no credit, though I had been careful to send him my papers, and though they had been published from time to time in our journals. *This statement* was based upon our respective printed records, and of which I hold there are “the most stringent proofs;” but it is not held that these “proofs” establish plagiarism, and, therefore, such a charge was never made. I could

have had no motive in making such a charge, as my right in no way depends upon it either in law or equity. It is not easy to see why Dr. CARPENTER's "long-established reputation both for original research and for personal probity," should be presented against a statement purporting to be based upon *facts* in print, accessible to "impartial persons" who desire the *truth* no less than they would desire "to get rid of the grievance and the grievance-monger by the most summary means available." Though indeed it is to be regretted, yet you need not be surprised if such arguments excite the suspicion that the cause is intrinsically bad. It is scarcely the kind of argument one would expect to find in an editorial of a journal devoted to science, which is supposed to value the message apart from the messenger. You may regret it, but need not be "surprised to observe the disposition of some of your medical cotemporaries" to worship truth and justice rather than the man. I find no cause to regret the course I have *at last* adopted, either from Dr. CARPENTER's letter or from the tone of your editorial. If it be true, as you naïvely suggest, that my "bundle of papers sent to Dr. CARPENTER," "found their way instantaneously to the waste-basket," *because* I was a "perfect stranger," how was I to gain an audience? As I could not find a way, I saw fit to make one. But this plea of yours is an implied admission of the justice of my claim; for if there were not something in these papers, what would be the difference whether they found their way to the waste-basket or were read? For you, the "*probably*" may be convenient, and I would not deprive you of it if I could, for, since I have felt compelled to adopt the course I have, it is a matter of indifference to me. If Dr. CARPENTER did not read them, he could easily have said so in his letter, and this controversy would have been avoided. He did not say so, but rested his claim upon the position that there is no essential difference between his doctrines of 1864 and those of 1850. This is the real question at issue between Dr. CARPENTER and myself, and not his "probity" or his "reputation for truth and honesty." In this country, a man of undoubted "personal probity" may claim another's property; he may have come by it honestly—but it may be doubted if it would be altogether consistent with that "long-established reputation," if, when the adverse claim is made, and proof furnished, the attempt should be made to get rid of the "perfect stranger" by the most summary means available, and to "put him out of court" without a hearing. If, after a fair hearing, he prove an imposter, it would then be time enough to deride and scorn him.

You affirm: "Ever since the year 1850 Dr. CARPENTER has been steadily developing a doctrine of vital action which, right or wrong, is throughout consistent." This is your own opinion, doubtless, but it is hoped you will not take it as cause of offense if, from facts before presented, some should come to a different conclusion.

You affirm: The "doctrine that vital motion is reciprocal with decay was many years older than the date of Dr. CARPENTER's memoir (1850), and that he never claimed it for himself at all." If you mean by this the doctrine that decay is the logical antecedent of the vital motion, I affirm: Dr. CARPENTER held just the reverse in his memoir of 1850, and subse-

quently up to 1864. As he never advanced it nor even mentioned it at all in 1850, how could he have claimed it for himself? You affirm: "Dr. WATTERS also takes credit to himself for originating the idea that the function of the germ, and subsequently of the organism, is to determine the *direction* in which the forces originated by tissue-change shall act; but this is a mere necessary complement of the doctrine of force-making tissue-change." On the other hand I affirm: There is no evidence that Dr. CARPENTER discovered this "necessary complement" until 1864; in fact, before this latter date, his "*peculiar vital force*," metamorphosed from heat, light, etc., was assumed by him to account for the *peculiar* "direction" of the vital motions. You affirm: "He (Dr. WATTERS) appears unable to understand either the doctrine of correlation of the physical forces, or Dr. CARPENTER's application of it to vital phenomena." You speak here as an individual, doubtless, and I affirm as an individual: you have an undisputed right to that opinion.

You are also pleased to say: "We do not at all desire to underrate Dr. WATTERS' own merits, however, and it would appear that a really distinguished American writer, Professor LE CONTE, to whom Dr. CARPENTER has freely expressed his own obligations for the original idea of a certain portion of his speculations, thinks highly of Dr. WATTERS' work." What Prof. LE CONTE, or his opinion of my "work," has to do with the controversy between Dr. CARPENTER and myself, I cannot see sufficiently clearly to venture an opinion. If you had been pleased to quote Prof. LE CONTE, however, it would have read: "A careful perusal of his (Dr. WATTERS') paper has convinced me that *his claim is just*." That language is unmistakable; it possesses that grace which could only have emanated from a true man, especially as it relates to what you refer to when you say Dr. CARPENTER freely expressed his obligations to him (Prof. LE CONTE).

I am confirmed in my belief that my *claim* contained no "offense against good manners and good feelings," by the fact that neither Mr. HINTON nor Prof. LE CONTE found cause of offense; they did not fancy or imagine I had charged *them* with either "plagiarism" or "theft."

Will you please do me the justice of inserting this communication in the next number of the *Lancet*, and oblige

Yours, very respectfully,

J. H. WATTERS, M.D.,

*Professor of Physiology and General Pathology in the Missouri Medical College, and President of the St. Louis Medical Society.*

*To the Editor of the St. Louis Med. & Surg. Journal:*

Dear Sir:—I send you herewith a copy of an article which appeared in the London *Lancet* as editorial, April 10th, 1869. I also send a copy of a letter in reply, which I sent to the *Lancet* for publication more than four months past. As I have not heard from that letter since, and as the *Lancet* has as yet failed to make any corrections of its misrepresentations in regard to the controversy between Dr. CARPENTER and myself (so far as I can learn), I ask you to please publish these papers, that I may correct the false positions of the London *Lancet* through your Journal. I ask

this because, as I value my own honor, I do not desire Dr. CARPENTER's "reputation for personal probity" to be made a subject of controversy.

The heading of the editorial of the London Lancet—"Dr. WATTERS' charge of plagiarism against Dr. CARPENTER"—is untrue, unless what I stated as *facts* admits of no other explanation. If these facts are consistent with other explanations, and I have no doubt they are, then it is the London Lancet, and not I, that brings Dr. CARPENTER's reputation for personal probity into the controversy, in that it *substitutes* "charges of plagiarism" and "theft" for the plain statement of facts which *alone* I presented without comment or inference. I presented the facts merely in a *civil* suit for the recovery of property. The question as to how Dr. CARPENTER obtained possession did not enter into the merits of that suit; but, in order to prove property, it was necessary to show when and where I had published, and that an *opportunity* had then and there been afforded by me for an acquaintance with those doctrines. I did not then, and do not now, intend that foreign issues shall be brought into this suit for the rendition of property. It is true, in my lecture I made the *demand* in tones which could not remain unheard, and which called for response; but this had become necessary, it seems to *me*, as my previous publications continued persistently to "find their way instantaneously into the waste-baskets" of those who were more recently adopting and publishing the same doctrines.

Now, Mr. Editor, as Dr. CARPENTER's private character has nothing whatever to do with the issues in this controversy, I hope the London Lancet, if it should be pleased to enter hereafter into the discussion of the real issues, will have the delicacy to leave that out. I have not been his accuser and will not further be his defender. It is commonly believed that he who has a consciousness of rectitude is the least suspicious of an imputation upon his honor.

But there is one passage in the article of the London Lancet to which I invite special attention; that is, its reference to Prof. LE CONTE. And to make the point clear, I will print the reference of the Lancet, and the passage from Prof. LE CONTE referred to, side by side:—

[From the *St. Louis Medical and Surgical Journal*, Nov 10th, 1868.]

"I received a few days ago a copy of an article by Dr. WATTERS, published in your Journal, entitled 'Doctrines of Life,' in which he gives a history of the introduction into physiological science of the idea that *life-force is generated by decay*, and claims for himself priority in the origination of the idea. A careful perusal of his paper has convinced me that *his claim is just*."—From *Prof. Le Conte's letter, dated Columbia. S. C., August 31st, 1868.*

[From the *Lancet*, April 10th, 1869.] (Its version of Prof. LE CONTE's letter.)

"We do not at all desire to underrate Dr. WATTERS' own merits, however, and it would appear that a really distinguished American writer, Professor LE CONTE, to whom Dr. CARPENTER has freely expressed his own obligations for the original idea of a certain portion of his speculations, thinks highly of Dr. WATTERS' work" (!)



Comment upon this gross misrepresentation by a scientific journal of a matter most pertinent to the issues of the controversy, is scarcely necessary. Dr. CARPENTER refers to Prof. LECONTE both in his "letter" and in his writings; in the one as being under obligations to him, and in the other as evidence that he is "not wanting in readiness to acknowledge real obligations of this kind;" Prof. LECONTE publishes that he is convinced that my claim is just, and *five months after* that the London *Lancet* permits this perversion of issues and facts to appear as editorial, and then for six months fails to make or to permit corrections. Thus it seems fit for the London *Lancet* to treat the "perfect stranger," but the "perfect stranger" was very naughty to state certain facts relative to the actions of Dr. CARPENTER, who from position and external influence *ought* to be able to take care of himself. I am persuaded that this is as little in accordance with sentiments of *true* nobility in England as in America. I did suppose, and do now, that the letters of Prof. LECONTE and Mr. HINTON settled this controversy so far as they or I had any interest in it. Neither of them fancied an intention to "call in question their reputation for truth and honesty," and there is sufficient internal evidence of originality in their writings to prevent any such imputation resting upon them. I have no further interest in the controversy and will not further participate in it. I hope the London *Lancet* "will have the grace" to correct the mistakes referred to in its editorial.

MR. EDITOR: "The controversy" being closed, please allow me to state my understanding of the scientific points involved, and the direction towards which this movement is tending. If we analyze the physical sciences so far as they are definitely developed, we will find that they consist in the limitations which in sensational consciousness constitute "*the thing*," being recognized and known as limitations of self-conscious thought. The object *known* being necessarily a thought-object, the sense-object, in order to be known, must become a thought-object. Thus physical science is rendered possible only through an identity of the sense-object and thought-object. Upon the establishment of this identity, thought in knowing its own object knows the sense-object. Thus only is the sense-object known and is physical science possible. We do not construct here, nor find, the long sought bridge over the "gulf" separating the objects of sense from thought, but the necessity for any such bridge is removed in that the gulf is an illusion. That bridge could never be constructed, as thought cannot pass beyond itself, or transcend its own limits.

In the development of physical science there are three movements: 1st, the process of thought in knowing itself or its own objects; 2nd, the process of reducing sense-objects so they are seen as identical with thought; 3rd, the process of thought, through this established identity, asserting itself as *objectively* valid and applying its own predicates to real things. This third movement must logically appear last, because it includes the other two; but as it includes the other two, it is *the* move-

ment of physical science in its most comprehensive development. The first two movements remain more or less separate for a greater or lesser time; their union is the beginning of the third movement.

Let us take any one sense-object and suppose it the subject of scientific investigation, and we will at once recognize the triune movement. Let us suppose a surveyor wishes to know the superficial area or contents of a tract of land. He first ascertains the boundaries or *limits* of this tract, and from these "data" he "calculates" the area. What is the rationale of this very simple process?

First in regard to the instruments used: All *instruments* or *measures* are such, in that in them the sense-object and thought-object are united. They are sense-representations of thought-objects. The instruments used by the surveyor are the "compass" and "chain"—by means of the compass he obtains the bearings, and by the chain, the length of the boundary lines.

Upon the side of thought, these instruments or measures are mathematical definitions. At the same time they are sense-objects—they represent the unity or identity, and only as they truly represent this identity are they correct. Not that they are *absolutely* identical, but in their use, an absolute identity is assumed.

Mathematics is the oldest of the sciences and relates only to thought-objects, but may be applied to sense-objects upon an established identity. The definitions—straight line, triangle, circle, etc., are thought-objects, and the object of geometry is to determine the properties of these as thought-objects. Thus pure mathematics represents the first movement of the physical sciences. The compass is a visual representation of the circle. It is divided into three hundred and sixty equal parts, called degrees. At the center, a needle—straight line—is placed upon a pivot, and, wherever the instrument may be placed, is supposed to point in the same direction. This direction of the needle is called north and south, and the bearing of any line is its relation to this in degrees. So, the chain is the recognized unity of a thought-object and sense-object, in that it is a *straight line* of definite length. Thus, when these instruments are comprehended, they are used as a medium by which sense-objects are converted into thought-objects. The surveyor, to obtain the area of a tract of land by means of these instruments, first obtains a thought-object *identical* with the sense-object; that is, as he comprehends both the thought side and sense side as united in these instruments, he applies them to the tract of land and takes as his "field notes" the thought side. He is now justified in neglecting or dropping the sense-object that thought may know its own object. And what he thus finds true of the thought-object he unhesitatingly predicates of the sense-object *because* of the previously established identity. This is but one example to illustrate what is and must be the condition of *all* physical science, viz: the conversion of the sense-object into a thought-object, or rather the seizing them in their identity. The difficulties and liabilities to error have nothing to do with the question; neither has the particular method; only so far as it is

done can physical science, properly speaking, exist. And it is being done continually; the child is asked the sum of two and two, it counts its fingers or marbles and answers, four.

In the history of mechanics and astronomy we find that the sense-movement remained more or less distinct from the thought-movement until the latter part of the seventeenth century and the beginning of the eighteenth. The establishment of the "three laws of motion" at that time united the movements, and through this established identity thought has unhesitatingly asserted its validity in regard to phenomena in these departments of physical science. This recognition of the identity of the two movements was really the beginning of these sciences in a strict sense.

In regard to the phenomena of life it has been usual even to the present time to assume some *occult* force or forces as the determining cause of the peculiar modes of action there observed. As these forces are occult, thought has been unable to assert itself as valid in regard to them. The two movements have remained separate. Though in the development of special forms infinite intelligence is manifested, yet in regard to these very manifestations, thought has been most slow in asserting its validity. Thought refuses to have to do with such vague conceptions of force as "dormant properties of matter," "an abstract notion emanating at once from the Divine will," "affection of matter," etc., etc. If it takes up "mode of motion" as a force, it must at once drop it, for a "mode of motion" is as *inert* as a mode of rest. "*A body continues in the state in which it is, whether of rest or motion, until compelled by some external force to change its state.*" Ah! then a "mode of motion" is not in itself a force but in that which it is not—in opposition *external* to itself. But in the annulment of the opposition, action and reaction are equal and opposite, and hence the reassertion in the annulment, and the "conservation of *vis viva*." This is not the "conversion" or "metamorphosis" of one abstract somewhat into another, for force is only in the concrete relations. Thought has already asserted its validity respecting force thus far, that it cannot be dormant or inactive—that force is persistent. But the movement with which I claim connection is to establish the identity of the vital movements and the dialectic of thought, that through this established identity, as in other sciences, thought may assert objective validity universally. We wish through the sense-movement to establish that the life of nature *is* the dialectic of thought realized.

Nature is now pregnant with this idea, and it matters but little whom she may choose as her accoucheurs. As in the latter part of the seventeenth century and beginning of the eighteenth mechanics thus became a positive science, so it must be with biology in the latter part of the nineteenth and beginning of the twentieth centuries. The thought-side is already well developed, and it only remains for us to bring up the sense-side that the identity may be recognized. I do not deny that even now I feel somewhat proud that in 1850, while yet an under-graduate student of medicine, I rebelled against the doctrines of life then taught. I advanced in my thesis, written for the degree of Doctor of Medicine,

which was published in 1851, the doctrine that decay, under the conditions of life, gives the vital motor, while the special modes of action are determined by the form, as the motions of the watch are due to the recoiling of the spring, while the specialty of the movements are due to the mechanism. Since (and very possibly earlier, though as yet I am not aware of it,) the same doctrines have been advocated by very distinguished scientific men, for instance: Prof. HENRY, of the Smithsonian Institute, in 1857; Mr. HINTON, of London, in 1858, and again in 1862: Prof. LE CONTE in 1859; and in 1864 Dr. CARPENTER advocates them as "suggested by the advance of science." But if these doctrines be true, and so far developed as to be suggested by the advance of science, we cannot refuse to further ask ourselves such questions as these: If the *form* or *organism* determines the mode of the special vital motions, what determines the form or organism? Again, if decay gives the motor to the vital motions, must there not already have been life that there may be anywhat to decay? Again, if vital force is the resultant of conditions, upon what do these conditions depend—by what are they sustained? As there have been many who have supposed they had discovered perpetual motion, so one may exhaust his inventive genius through an infinite series of dependents in space and time, to reach the *independent*—the *self-sustained*. And one may suppose he has thus solved the problem, as, for instance, the "progressive development" theory, "the struggle for existence" theory, the theory of "evolution from the homogeneous to the heterogeneous," etc., etc. "Thousand to one, the goal of your philosophy will be the spot where you become weary of thinking further." But thought, for a time exhausted, will again revive and warn you that you have gained nothing by your infinite series—that every additional link in the chain of dependents is but another demand for the self-sustained.

Seeing then that nothing is gained by the infinite series, may not the self-sustained be ever *here* and *now*? Is not the contradiction in every thing? and is not existence possible only through that very contradiction? If we would not abstract things from their relations, would we not at once see that the laws of heat, of light, of electricity, of chemistry, of life, are the laws of self-determinate thought? This is the direction, "I venture to think," the present movement must rapidly carry us. When these questions are definitely answered in the affirmative, thought will unhesitatingly declare its validity respecting the phenomena of life as it now does in regard to mechanics, and biology will lose its vagueness as mechanics did two hundred years ago. While the laws of life are fixed and definite, the vital motions are the manifestation of infinite intelligence.

Very respectfully,

J. H. WATTERS.

519 LOCUST STREET, ST. LOUIS, Nov. 2d, 1869.

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METEOROLOGICAL OBSERVATIONS AT ST. LOUIS, MO.

By A. WISLIZENUS, M.D.

The following observations of daily temperature in St. Louis are made with a MAXIMUM and MINIMUM thermometer (of Green, N. Y.). The daily minimum occurs generally in the night, the maximum about 3 P. M. The monthly mean of the daily minima and maxima, added and divided by 2, gives a quite reliable mean of the monthly temperature.

THERMOMETER FAHRENHEIT, 1869.

SEPTEMBER.			OCTOBER		
Day of Month.	Minimum.	Maximum.	Day of Month.	Minimum.	Maximum.
1	57.5	76.5	1	62.0	74.0
2	56.0	77.0	2	50.0	64.0
3	59.5	84.5	3	44.0	72.0
4	62.0	82.5	4	49.0	61.5
5	65.0	81.5	5	41.0	63.0
6	62.0	75.5	6	48.0	69.5
7	60.0	75.0	7	51.0	76.0
8	52.5	72.0	8	53.0	77.5
9	50.0	72.5	9	46.0	59.0
10	52.0	79.5	10	42.0	70.5
11	60.5	83.5	11	51.0	56.0
12	61.0	84.0	12	41.0	58.0
13	65.0	80.0	13	37.5	67.0
14	56.0	69.0	14	48.5	59.5
15	60.5	80.0	15	34.5	50.5
16	60.5	70.0	16	32.5	60.5
17	55.5	76.5	17	43.5	62.5
18	63.5	85.5	18	41.5	45.5
19	68.5	87.5	19	31.5	36.0
20	70.0	78.5	20	27.0	43.0
21	63.0	67.0	21	38.0	49.5
22	64.5	75.0	22	30.0	44.5
23	66.0	85.5	23	26.0	37.0
24	66.5	85.5	24	23.5	40.0
25	54.0	59.5	25	23.0	46.0
26	42.5	63.0	26	23.5	38.0
27	42.5	57.5	27	26.0	49.5
28	44.5	68.5	28	38.5	65.5
29	49.5	72.0	29	41.5	55.5
30	52.0	77.5	30	31.5	42.0
			31	26.0	52.0
Means....	58.1	76.1	Means....	38.8	56.3
Monthly Mean...67.1			Monthly Mean...47.5		

**REPORT OF ATMOSPHERIC ELECTRICITY, TEMPERATURE, AND HUMIDITY.**

BASED ON DAILY OBSERVATIONS at 6, 9, 12, 3, 6, AND 9 O'CLOCK, FROM  
MORNING TILL NIGHT, AT ST. LOUIS, MO.

*1.—Monthly Mean of Positive Atmospheric Electricity.*

Year	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.	Mean in 9 years.	No. of Thunder Storms.	Prevailing Winds.
1869.	Sept.	1.2	1.4	1.1	1.3	2.5	0.4	1.3	2.6	1	s. and se.
1869.	Oct.	7.4	7.9	5.2	5.6	8.7	12.2	7.8	6.5	0	w. and n.w.

*2.—Monthly Mean of Temperature, Fahrenheit.*

Year.	Month.	6 a. m.	9 a. m.	12 m.	3 p. m.	6 p. m.	9 p. m.	Mean of Month.
1869.	Sept.	59.1	67.1	74.2	73.6	70.5	65.0	68.2
1869.	Oct.	40.5	45.3	53.2	55.7	49.3	43.3	47.9

*3.—Monthly Mean of Relative Humidity.*

1869.	Sept.	88.3	76.3	64.8	63.5	76.2	83.5	75.4
1869.	Oct.	89.2	75.7	61.1	59.0	71.5	82.6	73.2

The mean temperature of September was 67.1 F. The average is 69.4. The quantity of rain in September was 1.70. The average is 3.25. The month was therefore somewhat cooler and drier than usual. But an uncommonly cold month was October. The mean temperature—47.5—is 8.3 degrees less than the average for thirty years, which is 55.8. In the last third of the month, the thermometer fell on ten days below freezing point. The lowest temperature with me was 23.0 on the 25th, but Mr. FENDLER, in Allenton, on the Pacific railroad, had it as low as 13.0. The winter apples that were not yet harvested were frozen on the trees. Two heavy snow storms, on the 19th and 22d of October, and the prevalence of W. and N.W. winds, impressed us with the fear that early winter had taken the place of Indian summer, or that our latitude had been changed. But those "chills" were not confined to St. Louis. They extended, on the contrary, over the whole country, and even to Europe. The quantity of rain in October, 2.60, and of melted snow, 0.82, makes the whole quantity equal to 3.42, which is about the average—3.39.

Both in September and October malaria fevers prevailed, as usual. The number of patients increased, but the mortality was very moderate.











